2 Error Codes: Indoor Units

2.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote controller display. The error code helps you to find the cause of the problem.

Shutdown

For some errors, the system only shuts down when the error occurs several times. This means that you have to wait until the system shuts down to be able to see the flashing LED on the front panel and the error code on the remote controller.

Overview

This chapter contains the following topics:

Topic	See page
2.2–Malfunctioning Indoor PCB (A1)	3–26
2.3–Malfunctioning Drain Water Level System (A3)	3–27
2.4–Indoor Unit Fan Motor Lock (A6)	3–29
2.5–Malfunctioning Drain System (AF)	3–31
2.6–Malfunctioning Capacity Setting (AJ)	3–32
2.7–Thermistor Abnormality (C4 or C9)	3–34
2.8–Malfunctioning Remote Controller Air Thermistor (CJ)	3–36

2.2 Malfunctioning Indoor PCB (A1)

Error code

A1

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☀	☀
Malfunctioning	☀	☼
	☀	●
	☼	—
	●	—

Error generation

The error is generated when the data from the EEPROM is not received correctly.

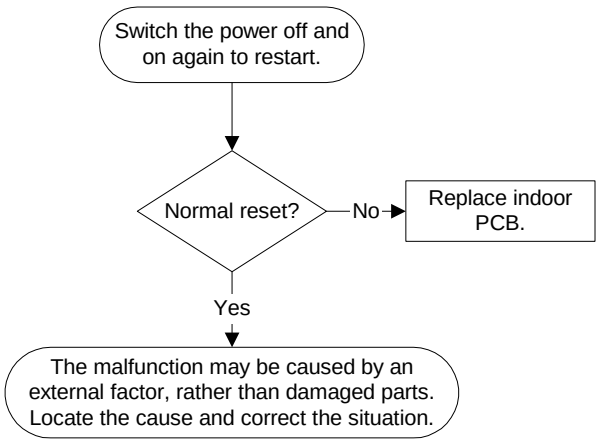
EEPROM (Electrically Erasable Programmable Read Only Memory): A memory chip that holds its content without power. It can be erased, either within the computer or externally and usually requires more voltage for erasure than the common +5 volts used in logic circuits. It functions like non-volatile RAM, but writing to EEPROM is slower than writing to RAM.

Causes

The possible cause is a malfunctioning indoor PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Switch the power off and on again to restart.
Normal reset?
No
Replace indoor PCB.
Yes
The malfunction may be caused by an external factor, rather than damaged parts. Locate the cause and correct the situation.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

2.3 Malfunctioning Drain Water Level System (A3)

Error code

A3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the water level reaches its upper limit and when the float switch turns OFF.

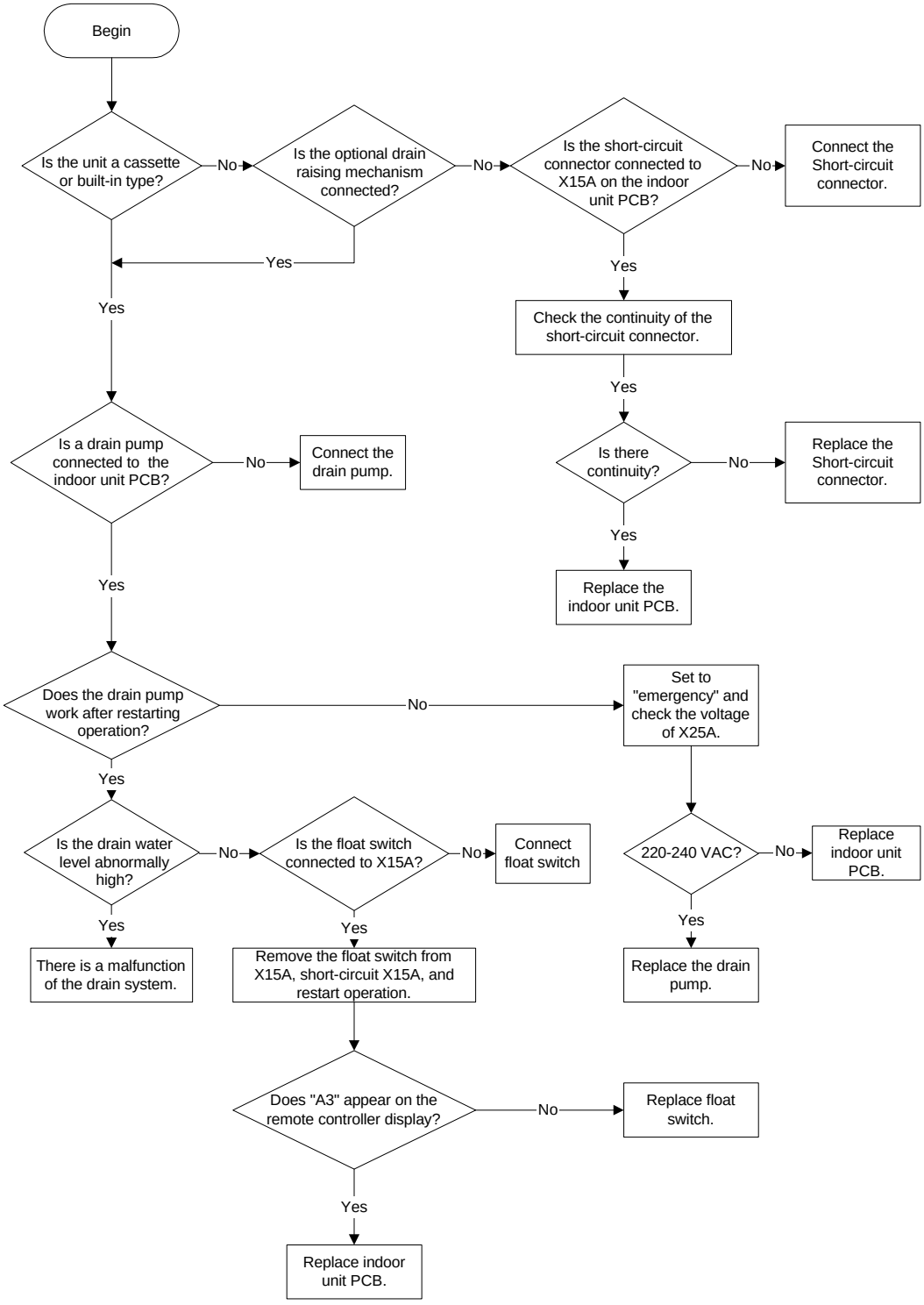
Causes

The possible causes are:

- ➤ Malfunctioning drain pump
- ➤ Improper drain piping work
- ➤ Drain piping clogging
- ➤ Malfunctioning float switch
- ➤ Malfunctioning indoor unit PCB
- ➤ Malfunctioning short-circuit connector X15 on PCB.

Troubleshooting

To troubleshoot, proceed as follows:



Remark

If "A3" is detected by a PC board which is not mounted with X15A, the PC board is defective.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

2.4 Indoor Unit Fan Motor Lock (A6)

Error code

A6

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the fan rotations are not detected while the output voltage to the fan is at its maximum.

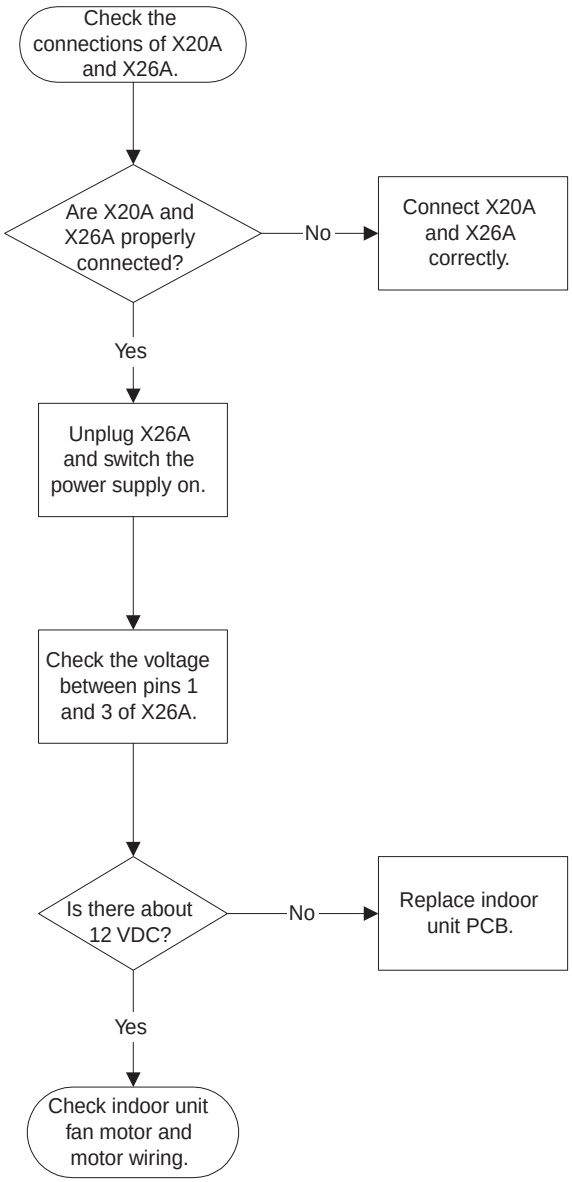
Causes

The possible causes are:

- ➤ Malfunctioning indoor unit fan motor
- ➤ Broken or disconnected wire
- ➤ Malfunctioning contact
- ➤ Malfunctioning indoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Check the connections of X20A and X26A.
Are X20A and X26A properly connected?
No
Connect X20A and X26A correctly.
Yes
Unplug X26A and switch the power supply on.
Check the voltage between pins 1 and 3 of X26A.
Is there about 12 VDC?
No
Replace indoor unit PCB.
Yes
Check indoor unit fan motor and motor wiring.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

2.5 Malfunctioning Drain System (AF)

Error code

AF

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the float switch changes from ON to OFF while the compressor is OFF.

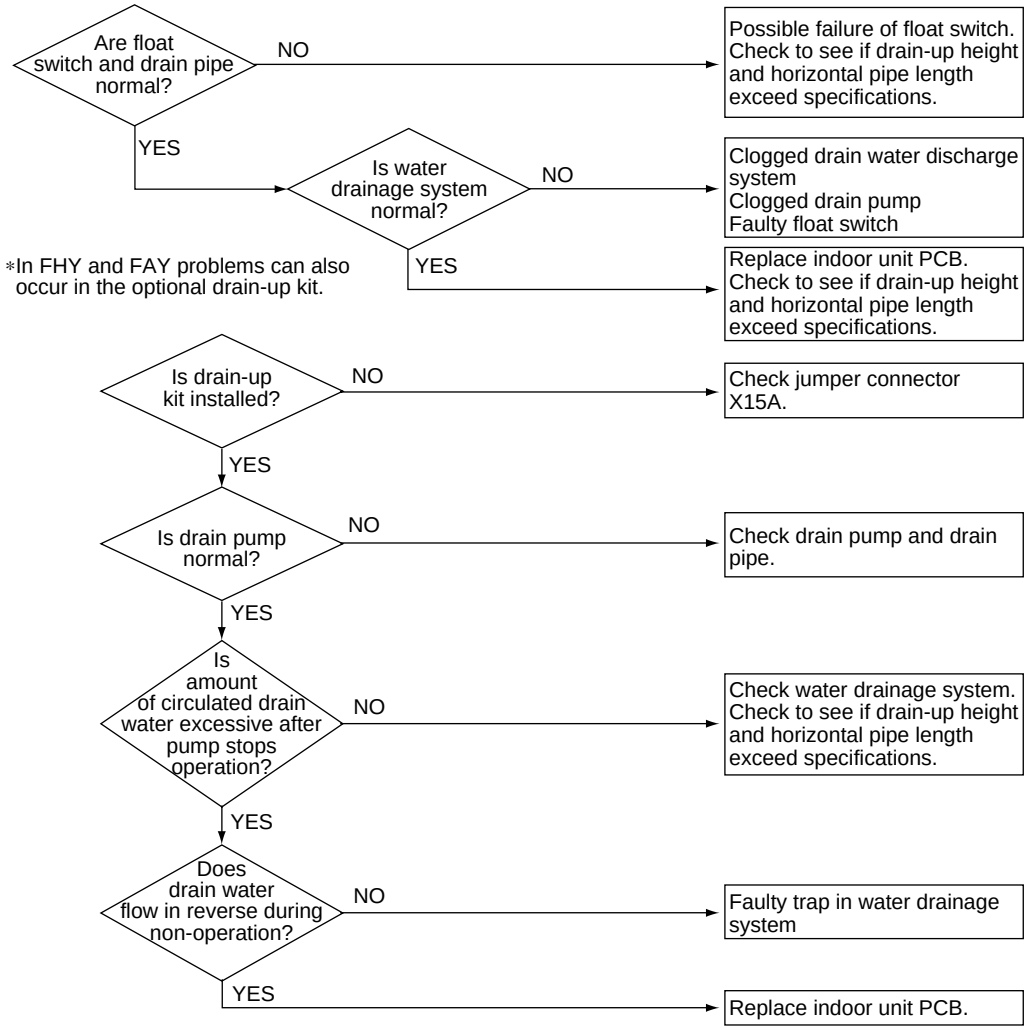
Causes

The possible causes are:

- ➤ Error in the drain pipe installation
- ➤ Malfunctioning float switch
- ➤ Malfunctioning indoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Are float switch and drain pipe normal?
NO
Possible failure of float switch. Check to see if drain-up height and horizontal pipe length exceed specifications.
YES
Is water drainage system normal?
NO
Clogged drain water discharge system
Clogged drain pump
Faulty float switch
∗In FHY and FAY problems can also occur in the optional drain-up kit.
YES
Replace indoor unit PCB. Check to see if drain-up height and horizontal pipe length exceed specifications.
Is drain-up kit installed?
NO
Check jumper connector X15A.
YES
Is drain pump normal?
NO
Check drain pump and drain pipe.
YES
Is amount of circulated drain water excessive after pump stops operation?
NO
Check water drainage system. Check to see if drain-up height and horizontal pipe length exceed specifications.
YES
Does drain water flow in reverse during non-operation?
NO
Faulty trap in water drainage system
YES
Replace indoor unit PCB.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

2.6 Malfunctioning Capacity Setting (RJ)

Error code

RJ

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the following conditions are fulfilled:

Condition	Description
1	➤ The unit is in operation. ➤ The PCB's memory IC does not contain the capacity code. ➤ The capacity setting adapter is not connected.
2	➤ The unit is in operation. ➤ The capacity that is set, does not exist for that unit.

Causes

The possible causes are:

- ➤ Malfunctioning capacity setting adapter connection
- ➤ Malfunctioning indoor unit PCB.

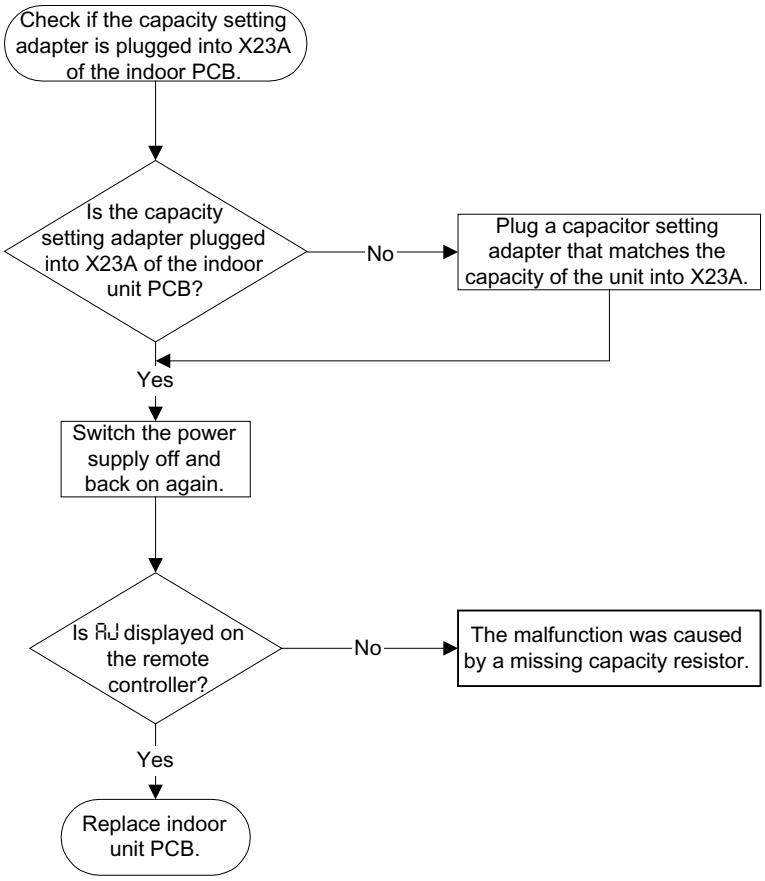
Capacity setting adapter

The capacity is set in the PCB's memory IC. A capacity setting adapter that matches the capacity of the unit is required in the following case:

In case the indoor PCB installed at the factory is for some reason changed at the installation site, the capacity will not be contained in the replacement PCB. To set the correct capacity for the PCB you have to connect a capacity setting adapter with the correct capacity setting to the PCB. The capacity setting for the PCB will become the capacity setting of the adapter because the capacity setting adapter has priority.

Troubleshooting

To troubleshoot, proceed as follows:


Check if the capacity setting adapter is plugged into X23A of the indoor PCB.
Is the capacity setting adapter plugged into X23A of the indoor unit PCB?
No
Plug a capacitor setting adapter that matches the capacity of the unit into X23A.
Yes
Switch the power supply off and back on again.
Is RJ displayed on the remote controller?
No
The malfunction was caused by a missing capacity resistor.
Yes
Replace indoor unit PCB.

Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

2.7 Thermistor Abnormality (C4 or C9)

Error code

The table below describes the two thermistor abnormalities.

Error	Description
C4	Malfunctioning heat exchanger thermistor system.
C9	Malfunctioning suction air thermistor system.

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when during compressor operation:

- ➤ Thermistor input > 4.96 V, or
- ➤ Thermistor output < 0.04 V.

Causes

The possible causes are:

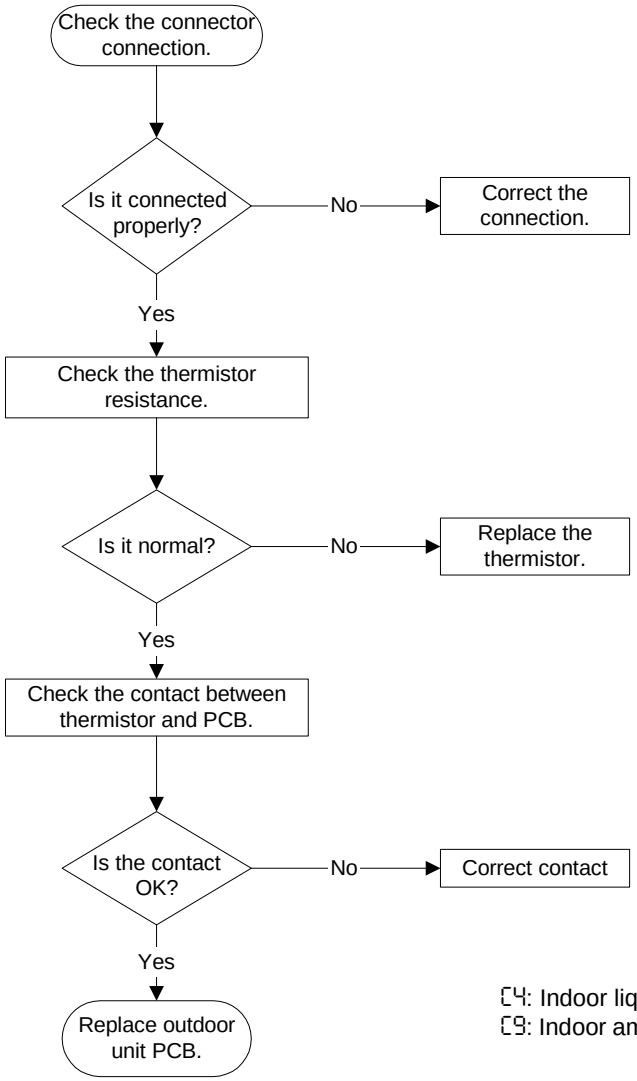
- ➤ Malfunctioning connector connection
- ➤ Malfunctioning thermistor
- ➤ Malfunctioning PCB
- ➤ Broken or disconnected wire.

Checking thermistors

See page 3–78.

Troubleshooting

To troubleshoot, proceed as follows:



C4: Indoor liquid pipe thermistor (R2T).
C9: Indoor ambient temperature thermistor (R1T).

Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

2.8 Malfunctioning Remote Controller Air Thermistor (CJ)

Error code

CJ

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the remote controller thermistor becomes disconnected or shorted while the unit is running.

Even if the remote controller thermistor is malfunctioning, the system can operate with the system thermistor.

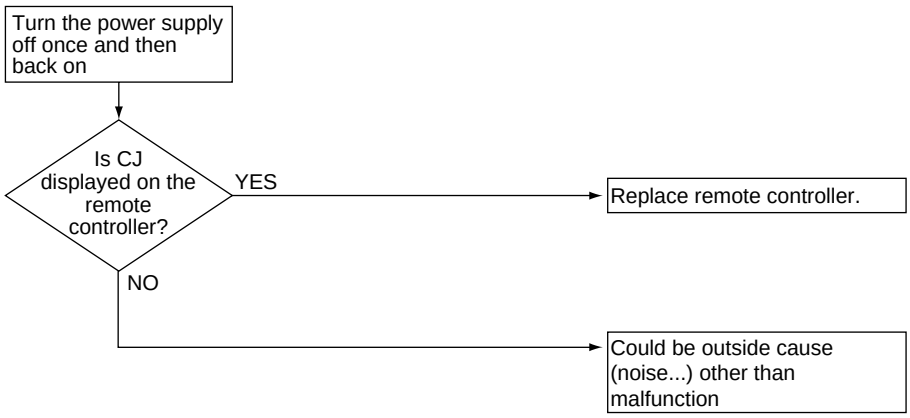
Causes

The possible causes are:

- ➤ Malfunctioning thermistor
- ➤ Broken wire.

Troubleshooting

To troubleshoot, proceed as follows:


Turn the power supply off once and then back on
Is CJ displayed on the remote controller?
YES
Replace remote controller.
NO
Could be outside cause (noise...) other than malfunction

Caution

Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

3 Error Codes: Outdoor Units

3.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote controller display. The error code helps you to find the cause of the problem.

Overview

This chapter contains the following topics:

Topic	See page
3.2–Activation of Safety Device (EO)	3–38
3.3–Failure of Outdoor Unit PC Board (E1)	3–43
3.4–Abnormal High Pressure (Detected by the HPS) (E3)	3–44
3.5–Abnormal Low Pressure (Detected by the LPS) (E4)	3–46
3.6–Compressor Overcurrent (E6)	3–48
3.7–Malfunctioning Electronic Expansion Valve (E9)	3–50
3.8–Malfunctioning in Discharge Pipe Temperature (F3)	3–52
3.9–Malfunctioning HPS (H3)	3–54
3.10–Malfunctioning Outdoor Thermistor System (H9)	3–55
3.11–Malfunctioning Discharge Pipe Thermistor System (J3)	3–56
3.12–Malfunctioning Heat Exchanger Thermistor System (J6)	3–57
3.13–Abnormal Heat Exchanging Temperature (F6)	3–58
3.14–Malfunction of Current Sensor System (J2)	3–59
3.15–Failure of Capacity Setting (PJ)	3–60

3.2 Activation of Safety Device (E0)

Error code

E0

Error generation

The error is generated when a safety device has detected an abnormality.

Causes

The possible causes are:

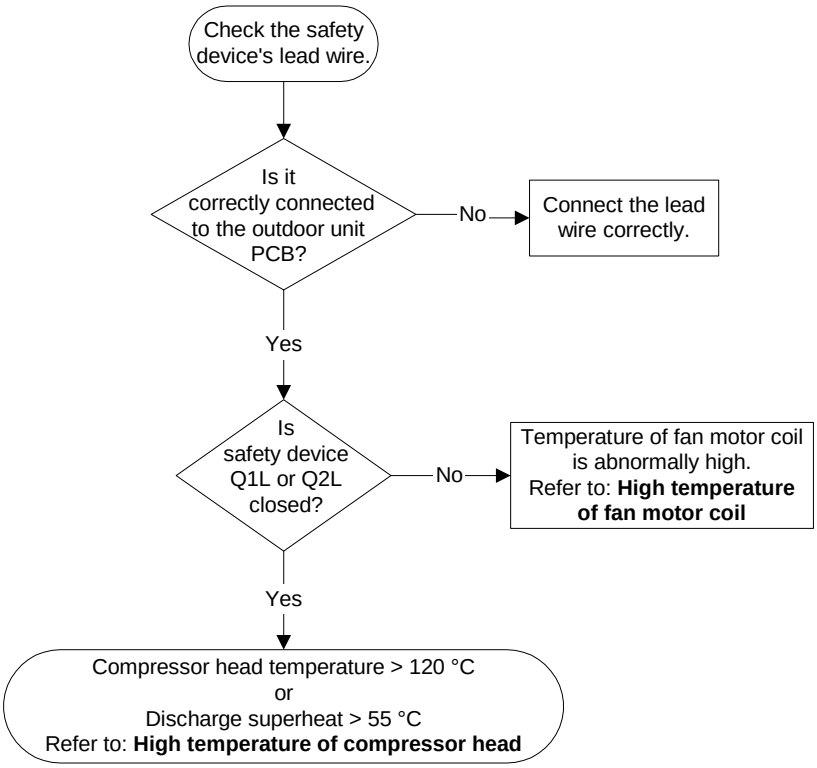
- ➤ Malfunctioning safety device input connection
- ➤ Broken or disconnected safety device harness
- ➤ Stop valve is set to “close”
- ➤ Clogging refrigerant piping circuit
- ➤ Air short-circuit
- ➤ Malfunctioning outdoor PCB.

Overview outdoor safety devices

See page 3–19.

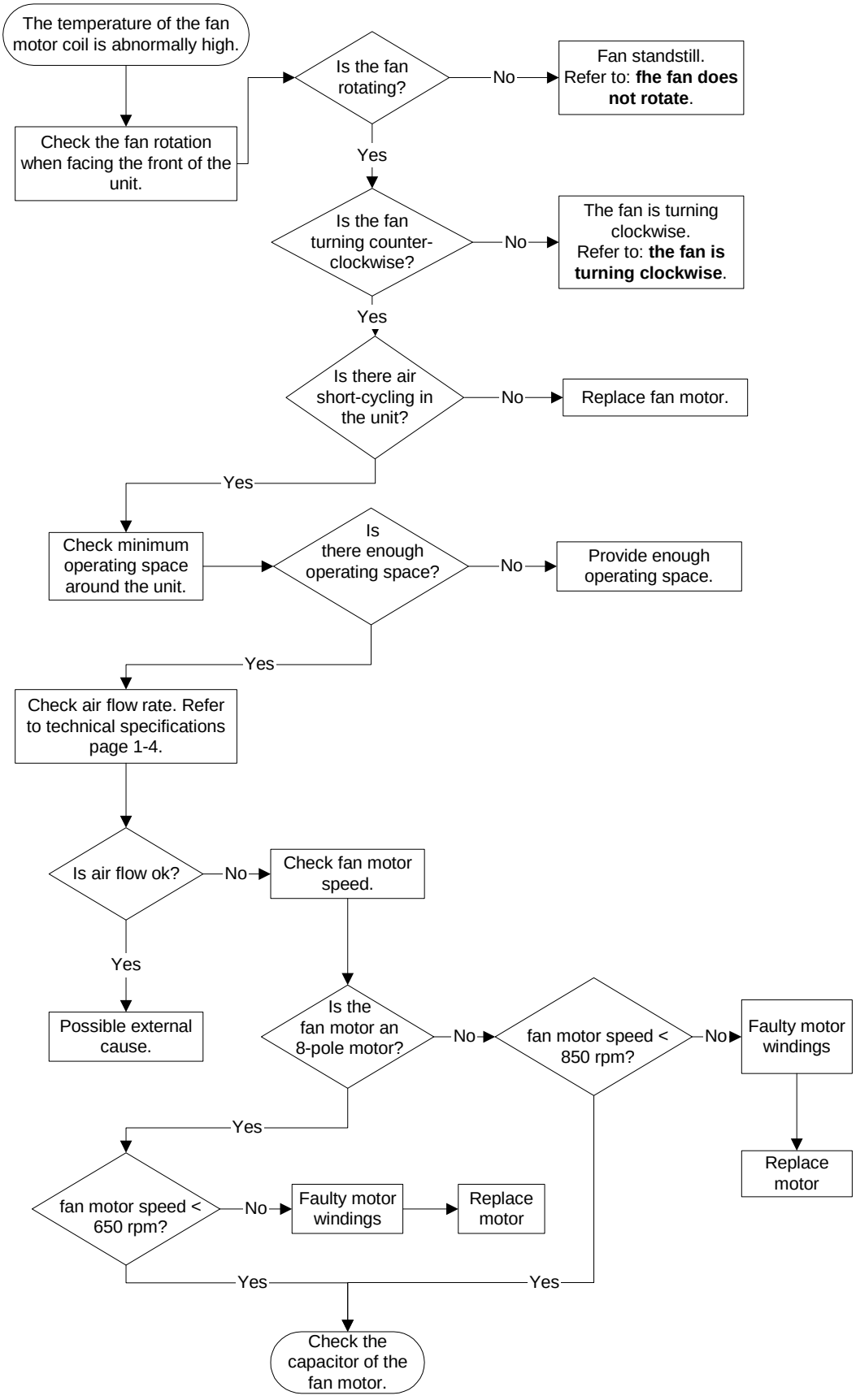
Troubleshooting

To troubleshoot, proceed as follows:


Check the safety device's lead wire.
Is it correctly connected to the outdoor unit PCB?
No
Connect the lead wire correctly.
Yes
Is safety device Q1L or Q2L closed?
No
Temperature of fan motor coil is abnormally high. Refer to: High temperature of fan motor coil
Yes
Compressor head temperature > 120 °C or Discharge superheat > 55 °C Refer to: High temperature of compressor head

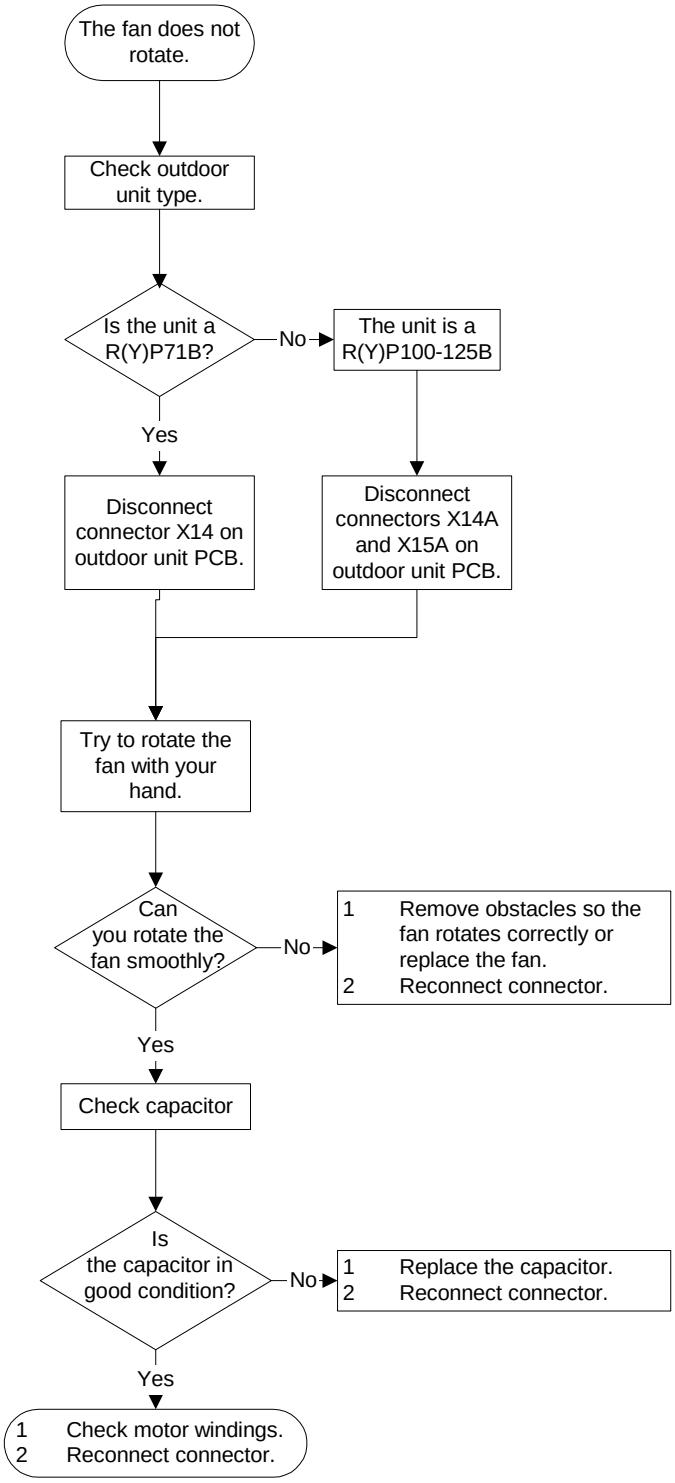
High temperature of fan motor coil

To troubleshoot, proceed as follows:



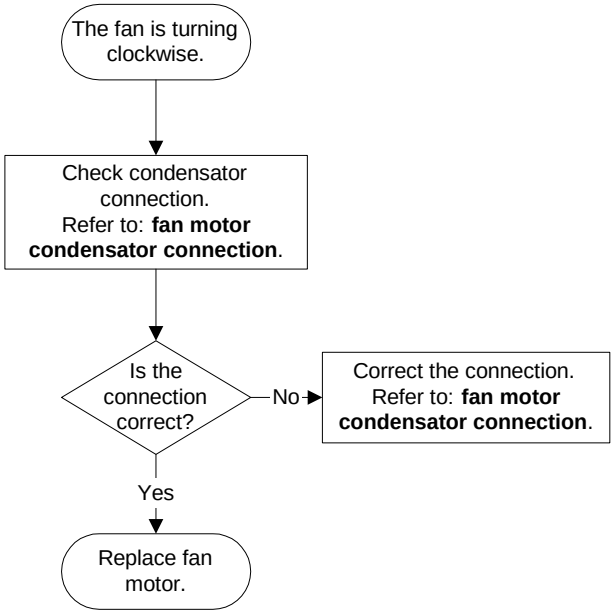
The fan does not rotate

To troubleshoot, proceed as follows:


The fan does not rotate.
Check outdoor unit type.
Is the unit a R(Y)P71B?
No
The unit is a R(Y)P100-125B
Yes
Disconnect connector X14 on outdoor unit PCB.
Disconnect connectors X14A and X15A on outdoor unit PCB.
Try to rotate the fan with your hand.
Can you rotate the fan smoothly?
No
1 Remove obstacles so the fan rotates correctly or replace the fan.
2 Reconnect connector.
Yes
Check capacitor
Is the capacitor in good condition?
No
1 Replace the capacitor.
2 Reconnect connector.
Yes
1 Check motor windings.
2 Reconnect connector.

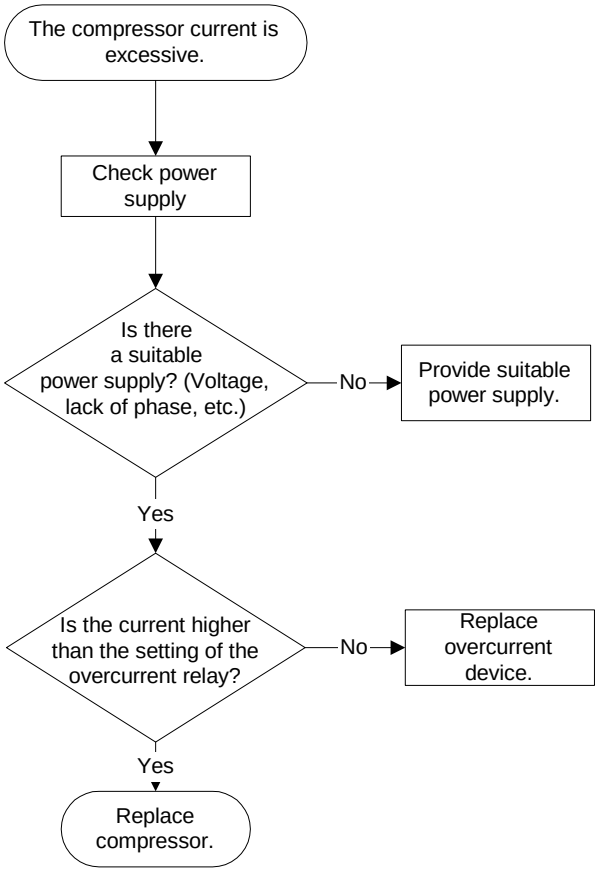
The fan is turning clockwise

To troubleshoot, proceed as follows:


The fan is turning clockwise.
Check condensator connection. Refer to: fan motor condensator connection.
Is the connection correct?
No
Correct the connection. Refer to: fan motor condensator connection.
Yes
Replace fan motor.

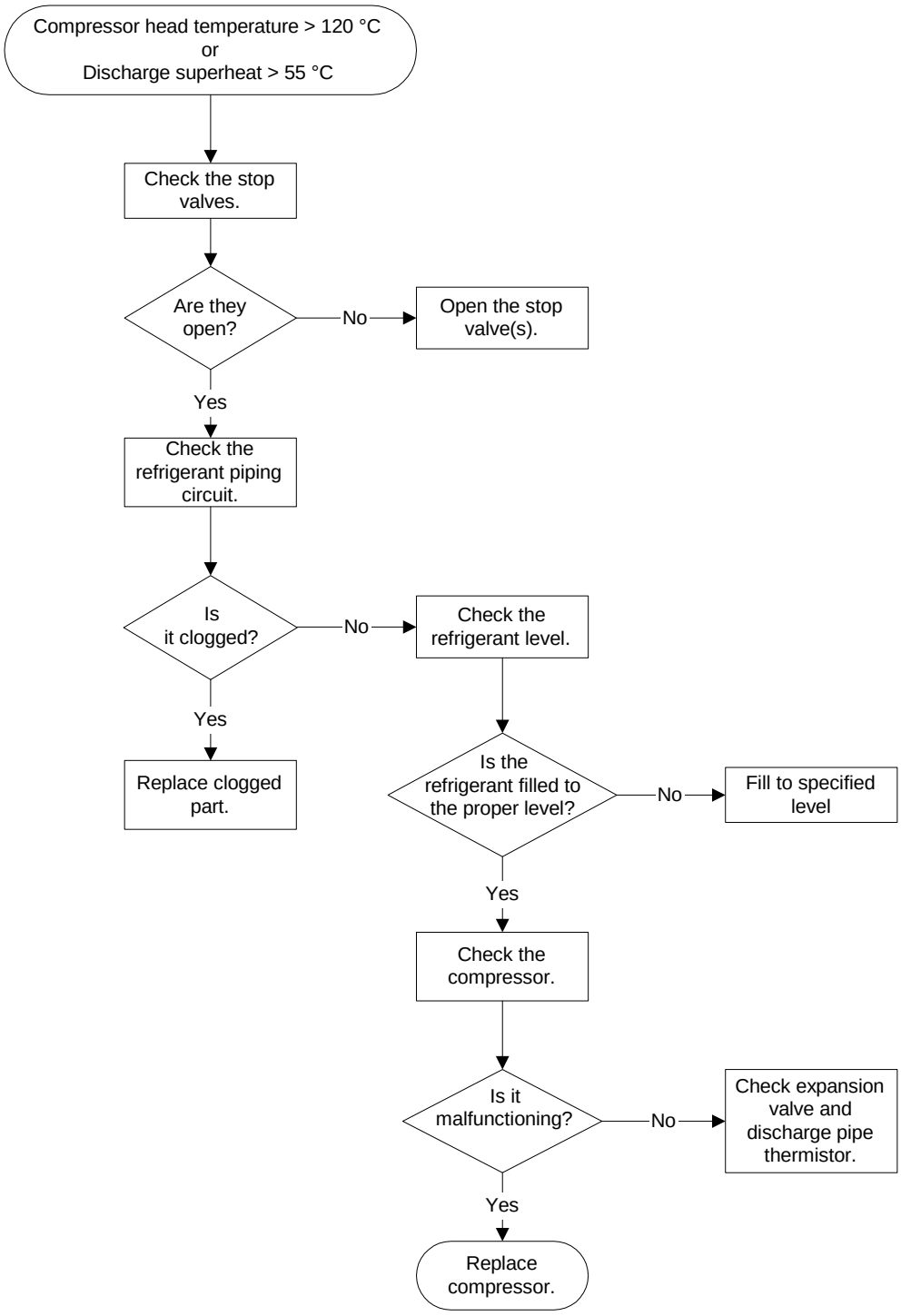
Excessive compressor current

To troubleshoot, proceed as follows:



High temperature of compressor head

To troubleshoot, proceed as follows:



3.3 Failure of Outdoor Unit PC Board (E1)

Remote Controller Display

E1

Method of Malfunction Detection

A microcomputer checks whether or not E^2PROM is normal.

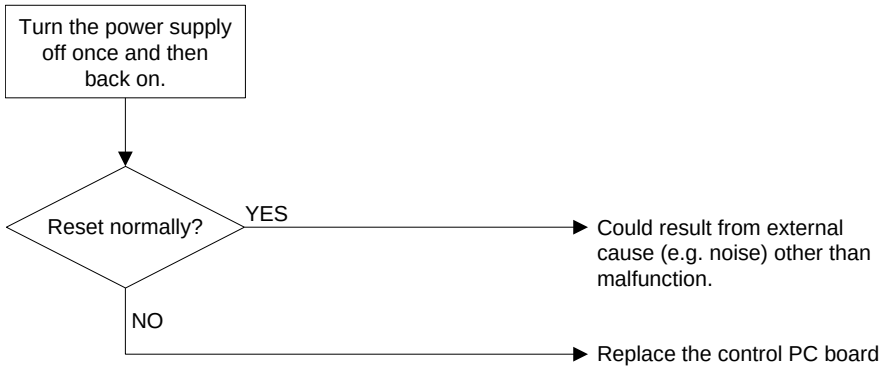
Malfunction Decision Conditions

The E^2PROM is malfunctioning when the power supply is turned on.

Possible Causes

➤ Faulty outdoor unit PC board

Troubleshooting


Turn the power supply off once and then back on.
Reset normally?
YES
Could result from external cause (e.g. noise) other than malfunction.
NO
Replace the control PC board

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.4 Abnormal High Pressure (Detected by the HPS) (E3)

Error code

E3

Error generation

The error is generated when the high-pressure switch is activated during compressor operation.

Causes

The possible causes are:

- ➤ Abnormal high pressure caused by too much refrigerant or by non-condensable gas (air or nitrogen)
- ➤ Inaccuracy of the high-pressure switch
- ➤ Broken or disconnected high-pressure switch harness
- ➤ Malfunctioning high-pressure switch connector connection
- ➤ Malfunctioning outdoor unit PCB
- ➤ Malfunctioning refrigerant piping circuit
- ➤ Indoor unit air filter is clogged (Heat mode)
- ➤ Outdoor heat exchanger dirty (Cool mode)
- ➤ Outdoor fan malfunction (Cool mode)
- ➤ Stop valves remained close

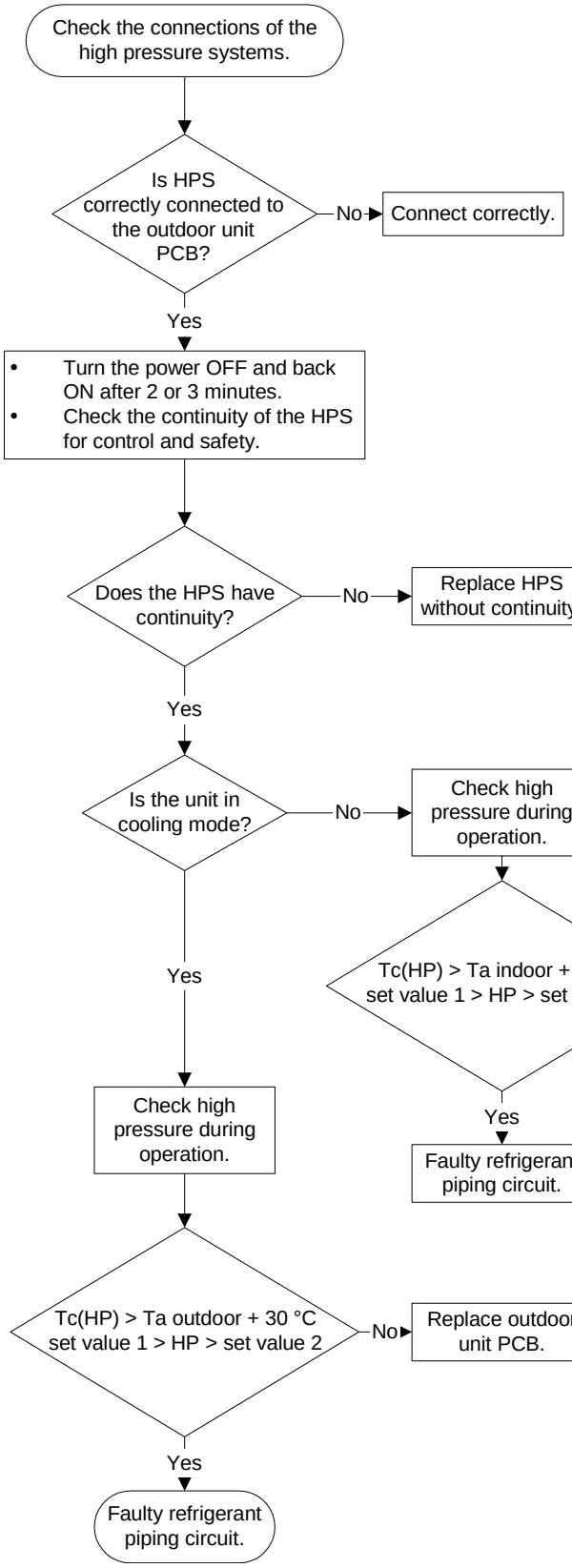
HPS settings

The table below contains the preset HPS values.

Applicable units	Abnormal	Reset
R(Y)P71/100/125L	> 33 bar	< 25.5 bar

Troubleshooting

To troubleshoot, proceed as follows:


Check the connections of the high pressure systems.
Is HPS correctly connected to the outdoor unit PCB?
No
Connect correctly.
Yes
• Turn the power OFF and back ON after 2 or 3 minutes.
• Check the continuity of the HPS for control and safety.
Does the HPS have continuity?
No
Replace HPS without continuity.
Yes
Is the unit in cooling mode?
No
Check high pressure during operation.
Tc(HP) > Ta indoor + 35 °C set value 1 > HP > set value 2
No
Replace outdoor unit PCB.
Yes
Faulty refrigerant piping circuit.
Yes
Check high pressure during operation.
Tc(HP) > Ta outdoor + 30 °C set value 1 > HP > set value 2
No
Replace outdoor unit PCB.
Yes
Faulty refrigerant piping circuit.

Some models are not equipped with a HPS.

Tc(HP) = heat exchanger temp.
Ta indoor = indoor air temp.
Ta outdoor = outdoor air temp.
HP = high pressure
set value 1 = max. pressure
set value 2 = min. pressure
Refer to high pressure settings

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.5 Abnormal Low Pressure (Detected by the LPS) (E4)

Error code

E4

Error generation

The error is generated when the low-pressure switch is activated during compressor operation.

Causes

The possible causes are:

- ➤ Malfunctioning refrigerant piping circuit
- ➤ Malfunctioning low-pressure switch
- ➤ Disconnected or broken low-pressure switch harness
- ➤ Malfunctioning low-pressure switch connector connection
- ➤ Malfunctioning outdoor unit PCB.
- ➤ Stop valve is left close

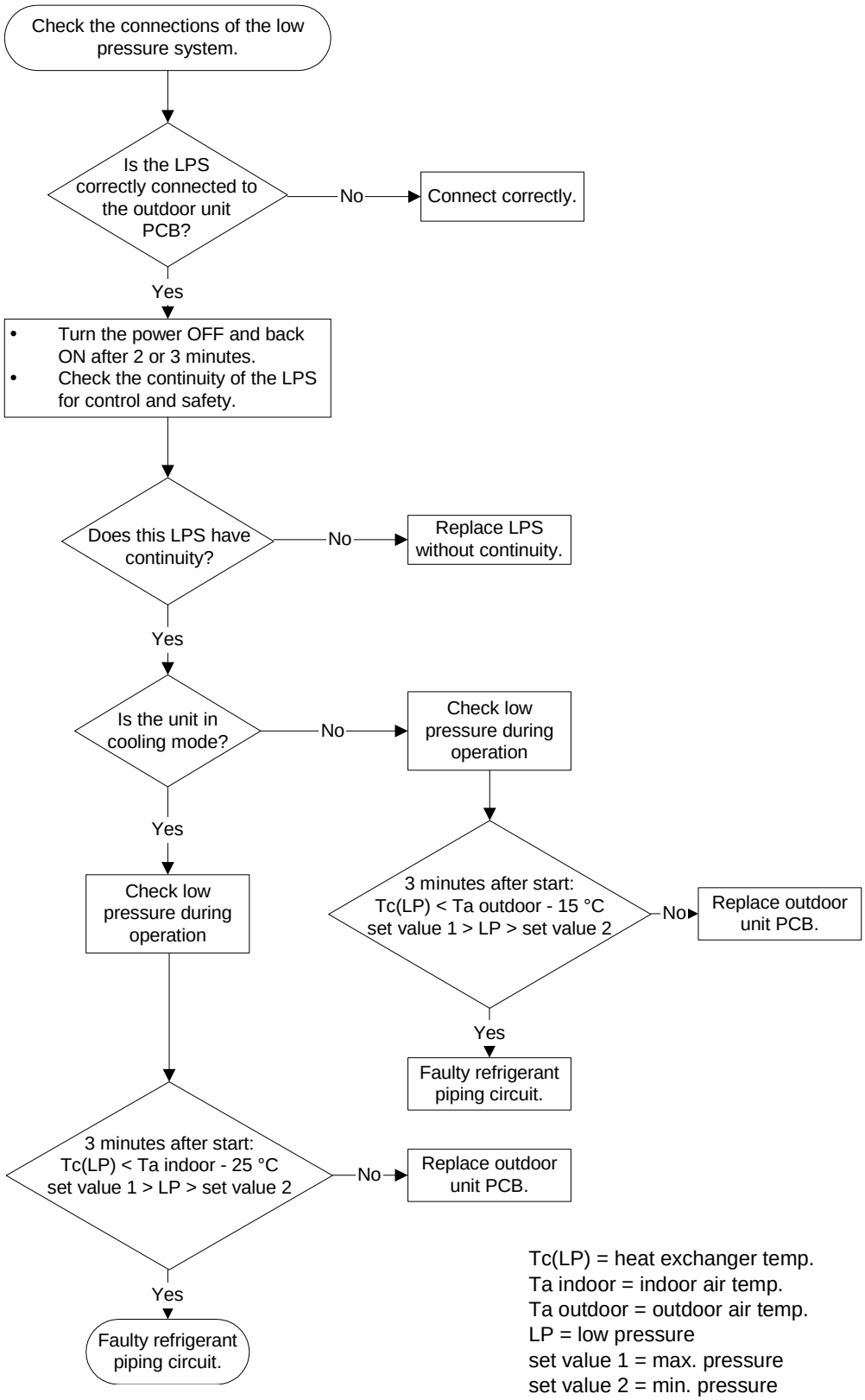
LPS settings

The table below contains the preset LPS values.

Applicable units	Abnormal	Reset
R(Y)P71/100/125L	< -0.3 bar	> +0.5 bar

Troubleshooting

To troubleshoot, proceed as follows:


Check the connections of the low pressure system.
Is the LPS correctly connected to the outdoor unit PCB?
No
Connect correctly.
Yes
• Turn the power OFF and back ON after 2 or 3 minutes.
• Check the continuity of the LPS for control and safety.
Does this LPS have continuity?
No
Replace LPS without continuity.
Yes
Is the unit in cooling mode?
No
Check low pressure during operation
Yes
Check low pressure during operation
3 minutes after start: Tc(LP) < Ta outdoor - 15 °C set value 1 > LP > set value 2
No
Replace outdoor unit PCB.
Yes
Faulty refrigerant piping circuit.
3 minutes after start: Tc(LP) < Ta indoor - 25 °C set value 1 > LP > set value 2
No
Replace outdoor unit PCB.
Yes
Faulty refrigerant piping circuit.

Tc(LP) = heat exchanger temp.
Ta indoor = indoor air temp.
Ta outdoor = outdoor air temp.
LP = low pressure
set value 1 = max. pressure
set value 2 = min. pressure
Refer to low pressure settings

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.6 Compressor Overcurrent (E6)

Remote Controller Display

E6

Method of Malfunction Detection

The input current value is detected with a current sensor.

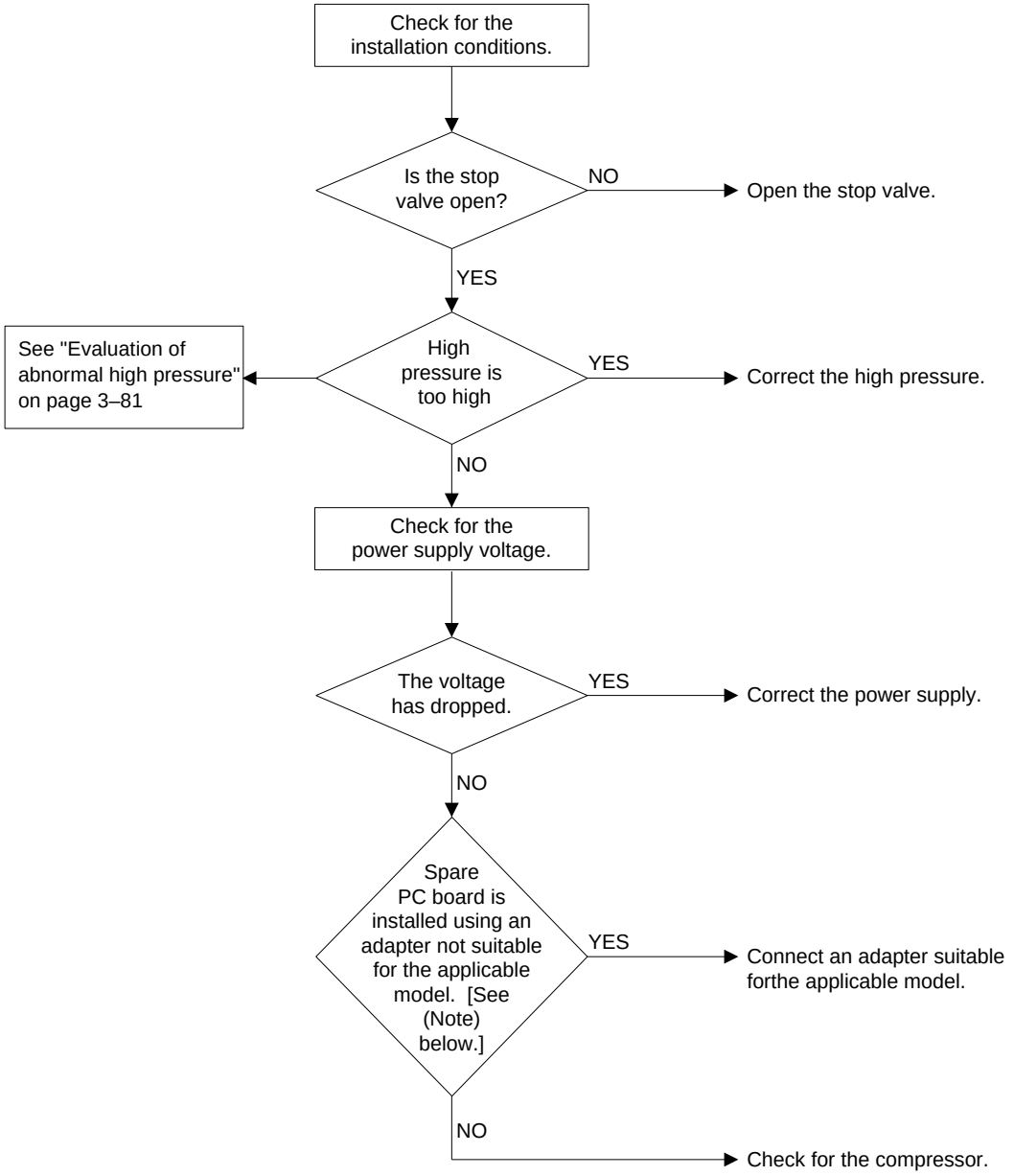
Malfunction Decision Conditions

When the compressor input current exceeds the specified input current value.
Refer "Approximate Input current value" on next page.

Possible Causes

- ➤ High pressure increased too high
- ➤ Voltage drop
- ➤ Failure to open the stop valve
- ➤ Faulty compressor (compressor lock)

Troubleshooting


Check for the installation conditions.
Is the stop valve open?
NO
Open the stop valve.
YES
See "Evaluation of abnormal high pressure" on page 3–81
High pressure is too high
YES
Correct the high pressure.
NO
Check for the power supply voltage.
The voltage has dropped.
YES
Correct the power supply.
NO
Spare PC board is installed using an adapter not suitable for the applicable model. [See (Note) below.]
YES
Connect an adapter suitable forthe applicable model.
NO
Check for the compressor.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

Note

For details, refer to information in Section "Failure of PJ Capacity Setting".

Approximate Input current value:

		Input current value
RYP71L7V1	JT90FA-V1N	25.3
RYP71L7W1	JT90FA-YE	11.5
RYP100L7V1	JT125FA-V1N	38.0
RYP100L7W1	JT125FA-YE	11.5
RYP125L7W1	JT160FA-YE	15.0

3.7 Malfunctioning Electronic Expansion Valve (E9)

Error code

E9

Error generation

The error is generated when the following coil current condition is not met:

Open circuit < coil current < short circuit.

Resistance values

The table below contains the reference resistance values.

—	**Grey**	**Black**	**Yellow**	**Red**	**Orange**
Grey	—	40-50 Ω	40-50 Ω	40-50 Ω	40-50 Ω
Black	40-50 Ω	—	80-100 Ω	80-100 Ω	80-100 Ω
Yellow	40-50 Ω	80-100 Ω	—	80-100 Ω	80-100 Ω
Red	40-50 Ω	80-100 Ω	80-100 Ω	—	80-100 Ω
Orange	40-50 Ω	80-100 Ω	80-100 Ω	80-100 Ω	—

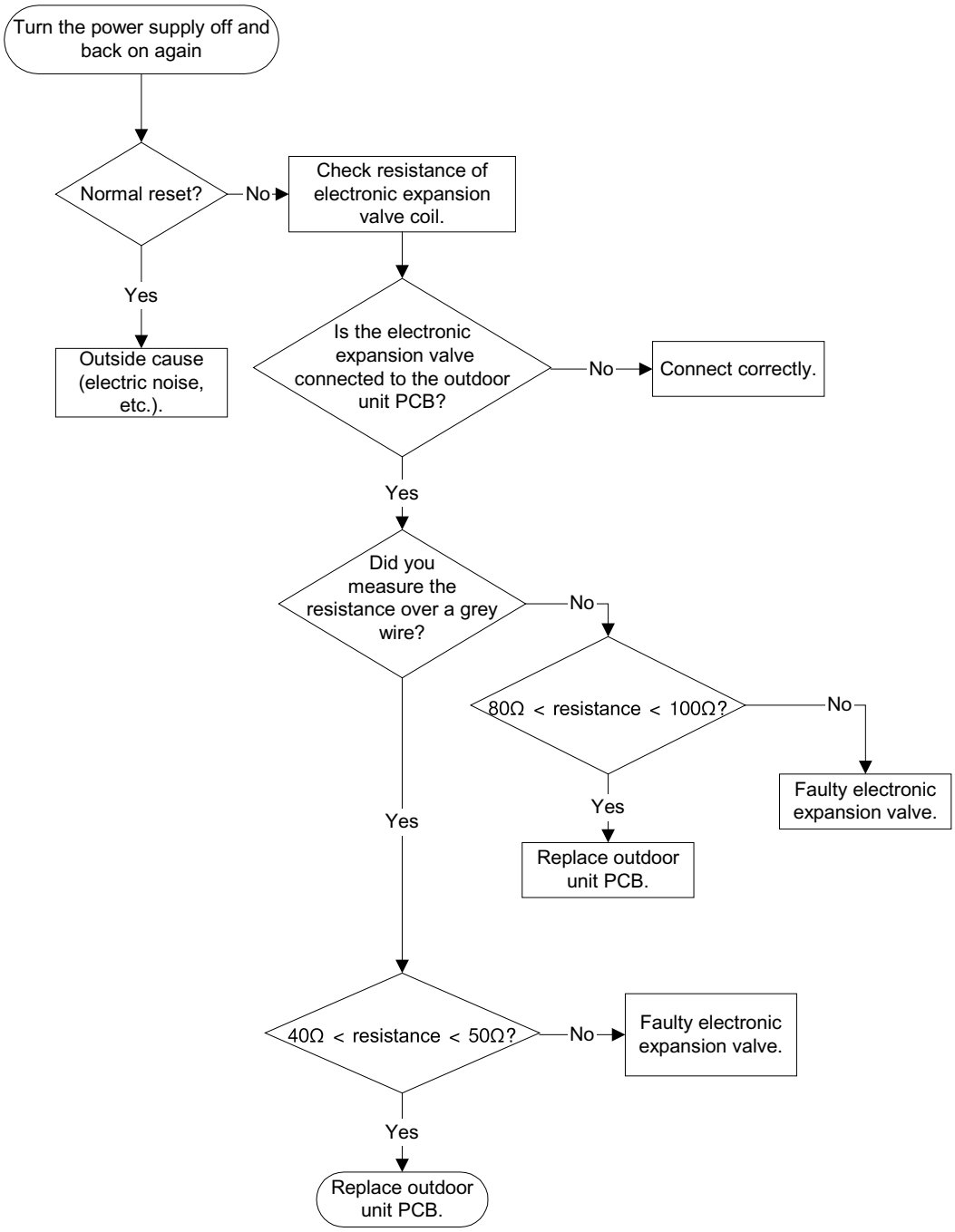
Causes

The possible causes are:

- ➤ Malfunctioning electronic expansion valve
- ➤ Broken or disconnected electronic expansion valve harness
- ➤ Malfunctioning electronic expansion valve connector connection
- ➤ Malfunctioning outdoor unit PCB
- ➤ Outside cause (electric noise...).

Troubleshooting

To troubleshoot, proceed as follows:



Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.8 Malfunctioning in Discharge Pipe Temperature (F3)

Error code

F3

Error generation

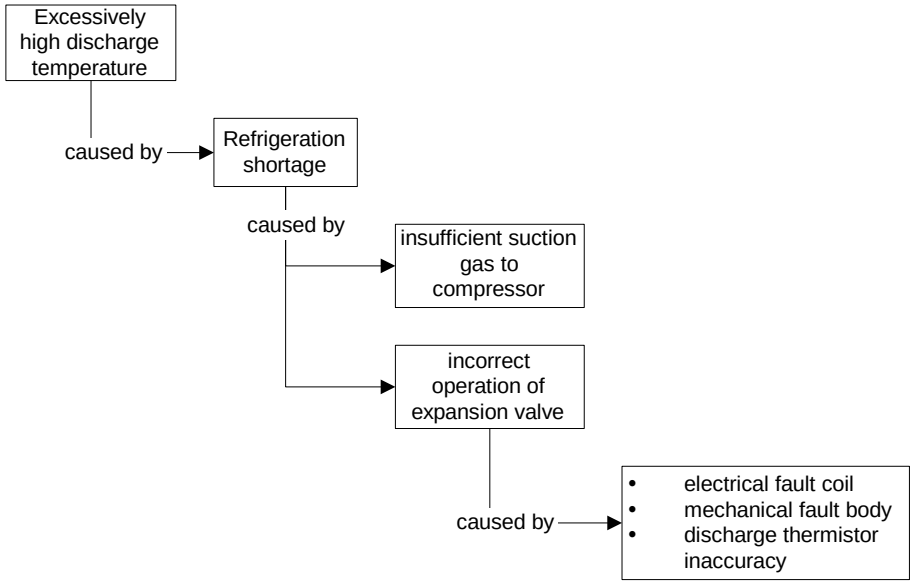
The error is generated when:

- ➤ Discharge pipe temperature becomes abnormally high
- ➤ Discharge pipe temperature rises suddenly
- ➤ Discharge pipe thermistor is not in its holder.

Causes

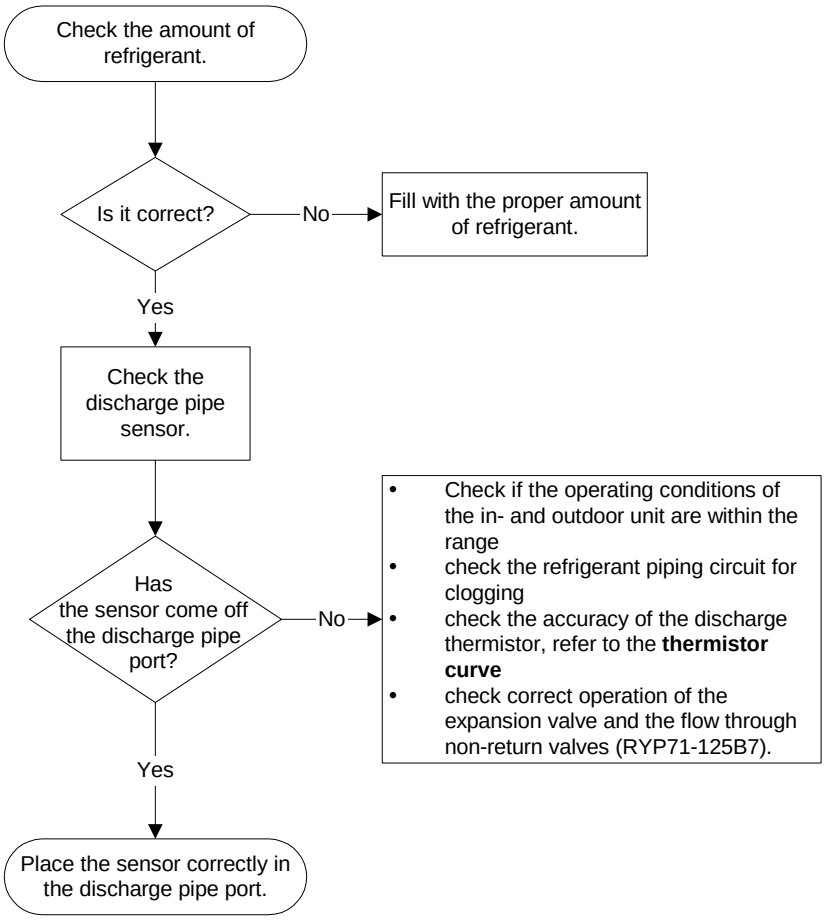
The possible causes are:

- ➤ Improper refrigerant amount
- ➤ Clogging refrigerant piping circuit
- ➤ Discharge temperature that is too low due to too much refrigerant or due to the discharge thermistor being out of its holder
- ➤ Discharge temperature that is too high. The possible causes are:
- ➤ Electronic expansion valve coil is disconnected from valve body



Troubleshooting

To troubleshoot, proceed as follows:


Check the amount of refrigerant.
Is it correct?
No
Fill with the proper amount of refrigerant.
Yes
Check the discharge pipe sensor.
Has the sensor come off the discharge pipe port?
No
• Check if the operating conditions of the in- and outdoor unit are within the range
• check the refrigerant piping circuit for clogging
• check the accuracy of the discharge thermistor, refer to the thermistor curve
• check correct operation of the expansion valve and the flow through non-return valves (RYP71-125B7).
Yes
Place the sensor correctly in the discharge pipe port.

Thermistor curve

See page 3–80.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.9 Malfunctioning HPS (H3)

Error code

H3

Error generation

The error is generated when there is no continuity in the high-pressure switch during compressor OFF.

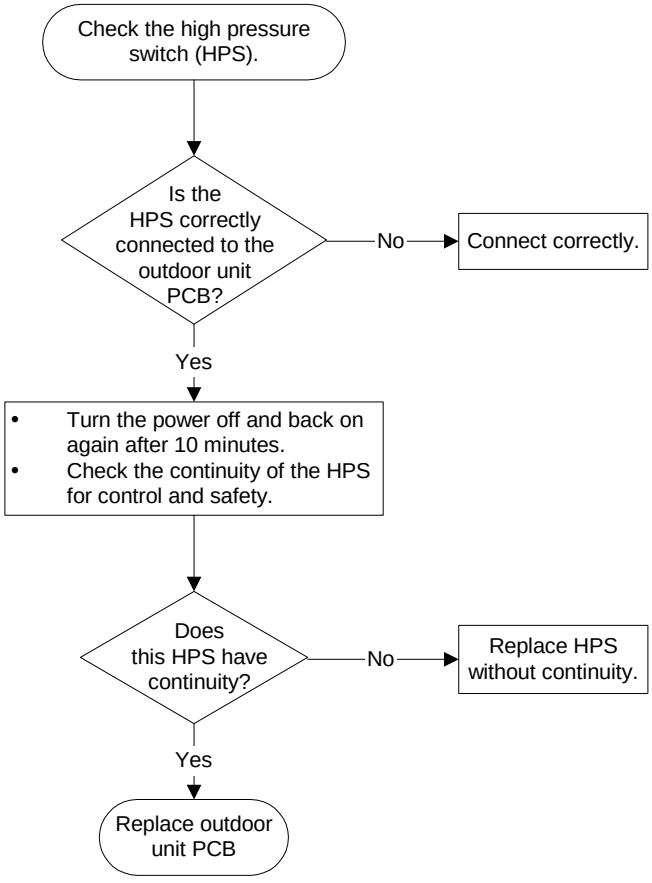
Causes

The possible causes are:

- ➤ Malfunctioning high-pressure switch
- ➤ Broken or disconnected high-pressure switch harness
- ➤ Malfunctioning high-pressure switch connector connection
- ➤ Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Check the high pressure switch (HPS).
Is the HPS correctly connected to the outdoor unit PCB?
No
Connect correctly.
Yes
• Turn the power off and back on again after 10 minutes.
• Check the continuity of the HPS for control and safety.
Does this HPS have continuity?
No
Replace HPS without continuity.
Yes
Replace outdoor unit PCB

3.10 Malfunctioning Outdoor Thermistor System (H9)

Error code

H9

Error generation

The error is generated when the thermistor resistance is out of its range (60Ω to 600kΩ).

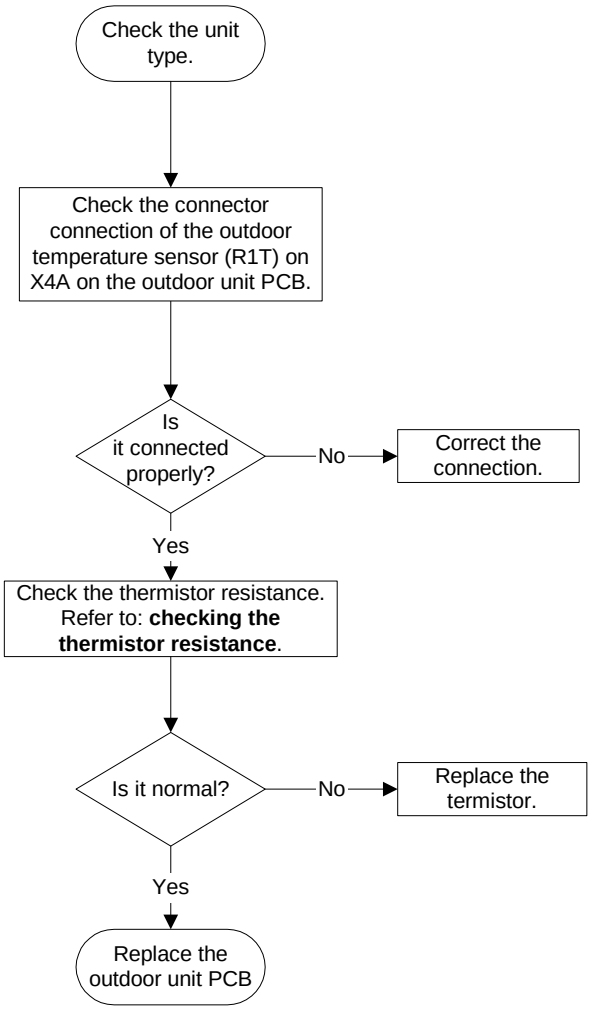
Causes

The possible causes are:

- ➤ Malfunctioning outdoor thermistor
- ➤ Malfunctioning outdoor thermistor connector connection
- ➤ Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Check the unit type.
Check the connector connection of the outdoor temperature sensor (R1T) on X4A on the outdoor unit PCB.
Is it connected properly?
No
Correct the connection.
Yes
Check the thermistor resistance. Refer to: **checking the thermistor resistance**.
Is it normal?
No
Replace the termistor.
Yes
Replace the outdoor unit PCB

Checking the thermistor resistance

See page 3–79.

3.11 Malfunctioning Discharge Pipe Thermistor System (J3)

Error code

J3

Error generation

The error is generated when the thermistor resistance is out of its range.

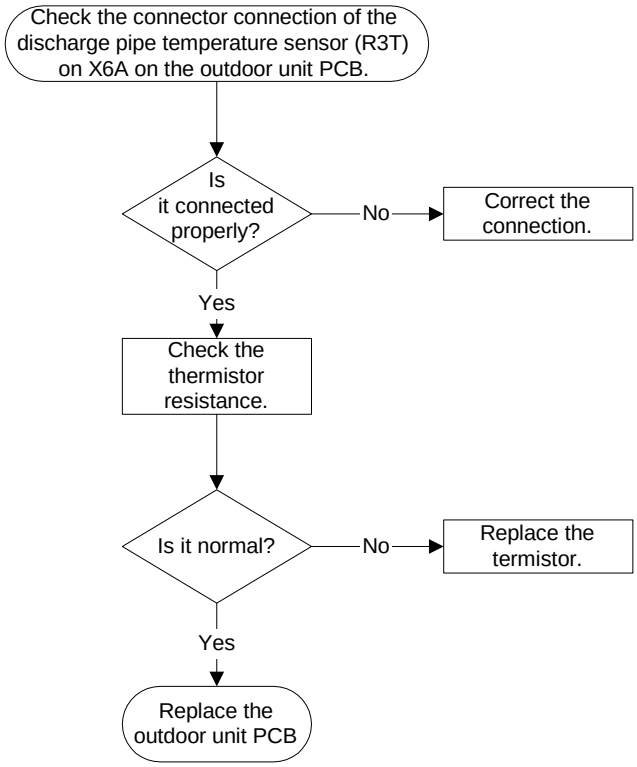
Causes

The possible causes are:

- ➤ Malfunctioning discharge pipe thermistor
- ➤ Malfunctioning discharge pipe thermistor connector connection
- ➤ Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Check the connector connection of the discharge pipe temperature sensor (R3T) on X6A on the outdoor unit PCB.
Is it connected properly?
No
Correct the connection.
Yes
Check the thermistor resistance.
Is it normal?
No
Replace the termistor.
Yes
Replace the outdoor unit PCB

3.12 Malfunctioning Heat Exchanger Thermistor System (J6)

Error code

J6

Error generation

The error is generated when the thermistor resistance is out of its range.

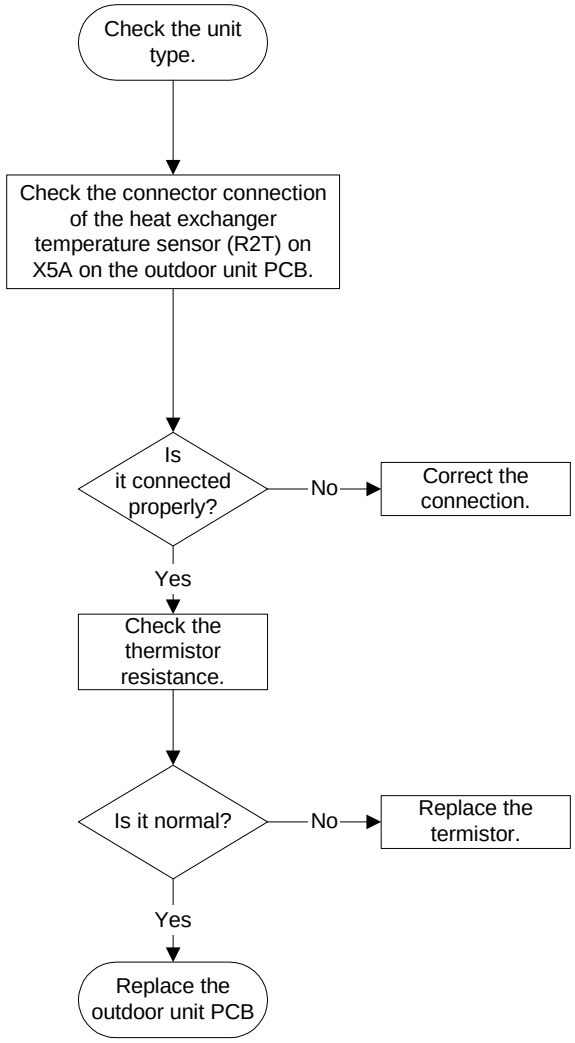
Causes

The possible causes are:

- ➤ Malfunctioning heat exchanger thermistor
- ➤ Malfunctioning heat exchanger thermistor connector connection
- ➤ Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Check the unit type.
Check the connector connection of the heat exchanger temperature sensor (R2T) on X5A on the outdoor unit PCB.
Is it connected properly?
No
Correct the connection.
Yes
Check the thermistor resistance.
Is it normal?
No
Replace the termistor.
Yes
Replace the outdoor unit PCB

3.13 Abnormal Heat Exchanging Temperature (F6)

Remote Controller Display

F6

Method of Malfunction Detection

The high pressure control (stop) is made according to temperature detected with outdoor unit heat exchanging thermistor in cooling operation or indoor unit heat exchanging thermistor in heating operation.

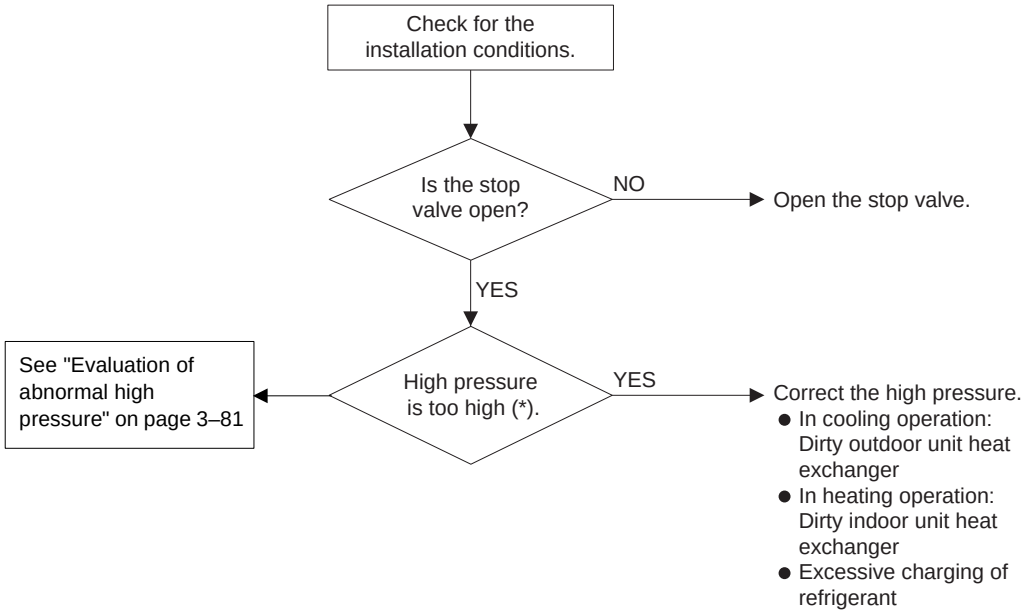
Malfunction Decision Conditions

When the outdoor unit heat exchanging temperature in cooling operation or the indoor unit heat exchanging temperature in heating operation exceeds a rated value. (Refer to information in Part 7 "Function and Operation".)

Possible Causes

- ➤ Clogged indoor unit suction filter (in heating operation)
- ➤ Dirty outdoor unit heat exchanger
- ➤ Faulty outdoor unit fan
- ➤ Excessive charging of refrigerant
- ➤ Failure to open the stop valve

Troubleshooting


Check for the installation conditions.
Is the stop valve open?
NO
Open the stop valve.
YES
High pressure is too high (*).
YES
Correct the high pressure.
● In cooling operation: Dirty outdoor unit heat exchanger
● In heating operation: Dirty indoor unit heat exchanger
● Excessive charging of refrigerant
See "Evaluation of abnormal high pressure" on page 3–81

* See "Evaluation of abnormal high pressure" on page 81

3.14 Malfunction of Current Sensor System (J2)

Remote Controller Display

J2

Method of Malfunction Detection

The malfunction of current sensor is detected through the current detected with the current sensor.

Malfunction Decision Conditions

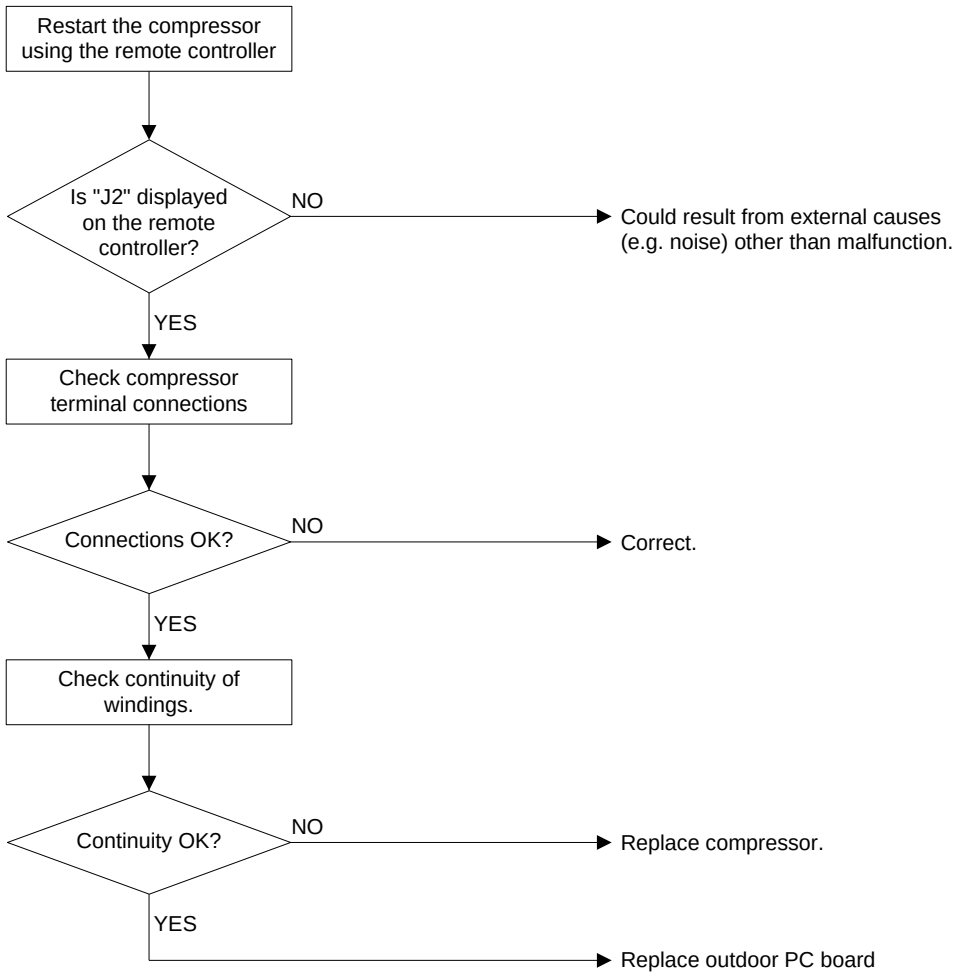
While in operation:
When the current detected with the current sensor is not more than a constant value.

While in stopping:
When the current detected with the current sensor is not less than a constant value.

Possible Causes

- ➤ Faulty current sensor
- ➤ Faulty outdoor unit PC board
- ➤ Disconnected compressor

Troubleshooting



Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

3.15 Failure of Capacity Setting (PJ)

Remote Controller Display

PJ

Method of Malfunction Detection

Check whether set value (i.e., factory set value) written in E^2PROM or set value with the (replaced) capacity setting adapter (X26A) is the same as that of outdoor unit capacity.

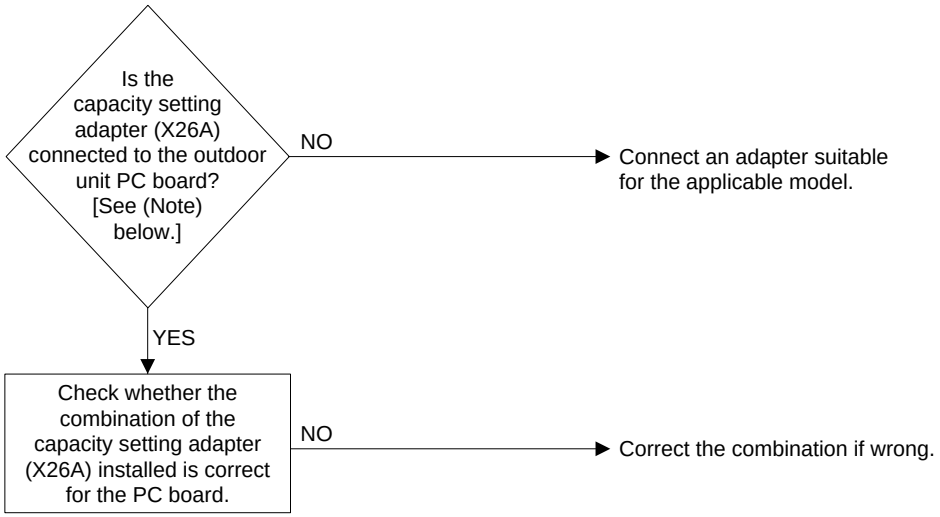
Malfunction Decision Conditions

When the set value with the E^2PROM differs from that of the outdoor unit capacity or any capacity setting adapter other than that suitable for the applicable PC board is installed. (However, the failure decision is made only when the power supply is turned on.)

Possible Causes

- Improper set value with E^2PROM
- Improper capacity setting adapter installed
- Faulty outdoor unit PC board

Troubleshooting


Is the capacity setting adapter (X26A) connected to the outdoor unit PC board? [See (Note) below.]
NO
Connect an adapter suitable for the applicable model.
YES
Check whether the combination of the capacity setting adapter (X26A) installed is correct for the PC board.
NO
Correct the combination if wrong.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

Notes

- The capacity setting adapter is not connected at the time of shipment from factory. (The capacity is written in the E^2PROM.) This capacity setting adapter is required only when the PC board is replaced with a spare PC board.
- Refer to instructions on how to set Sky-Air L- series Spare Part outdoor PC board on page 4-20.

4 Error Codes: System Malfunctions

4.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote controller display. The error code helps you to find the cause of the problem.

Overview

This chapter contains the following topics:

Topic	See page
4.2–Gas Shortage Detection (UO)	3–62
4.3–Reverse Phase (U1)	3–63
4.4–Transmission Error between Indoor and Outdoor Unit (U4 or UF)	3–65
4.5–Transmission Error between Indoor Unit and Remote Controller (U5)	3–67
4.6–Transmission Error between MAIN Remote Controller and SUB Remote Controller (U8)	3–68
4.7–Malfunctioning Field Setting Switch (UA)	3–69

4.2 Gas Shortage Detection (U0)

Error code

U0

Error method

The discharge pipe thermistor detects the malfunction temperature at which there can be a gas shortage. If the discharge temperature exceeds 125°C during more than 20 s, the outdoor unit will stop and retry when the guard timer is OFF (3 min have passed).

During the retrial, the expansion valve will be opened 90 pulses more than in case of the previous start. When the unit restarts with a fully opened expansion valve, the remote controller displays “U0” after pressing the test button.

Error generation

The error is generated when the microcomputer detects gas shortage. However, the unit can still operate.

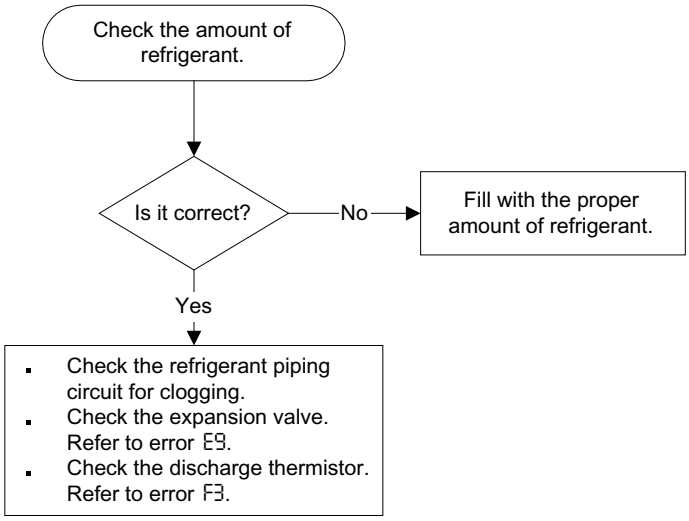
Causes

The possible causes are:

- ➤ Refrigerant shortage
- ➤ Clogging of the refrigerant piping circuit.

Troubleshooting

To troubleshoot, proceed as follows:


Check the amount of refrigerant.
Is it correct?
No
Fill with the proper amount of refrigerant.
Yes
Check the refrigerant piping circuit for clogging.
Check the expansion valve. Refer to error E9.
Check the discharge thermistor. Refer to error F3.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

4.3 Reverse Phase (U1)

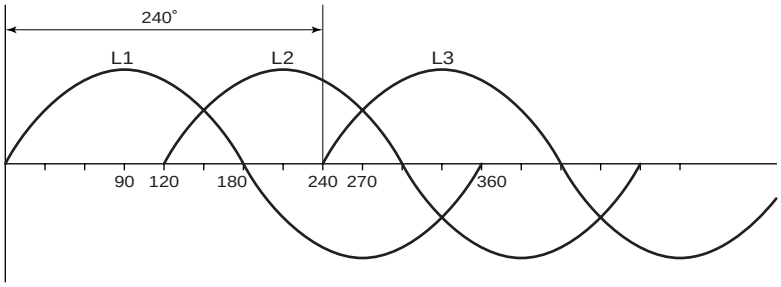
Error code

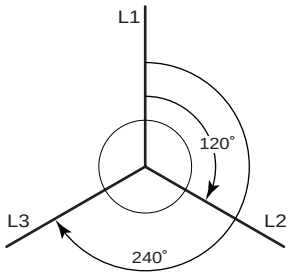
U1

This error code is only for 3-phase equipment.

Error generation

The error is generated when the difference between phase L1 and L3 is not 240°. The illustration below shows the 3-phase network.





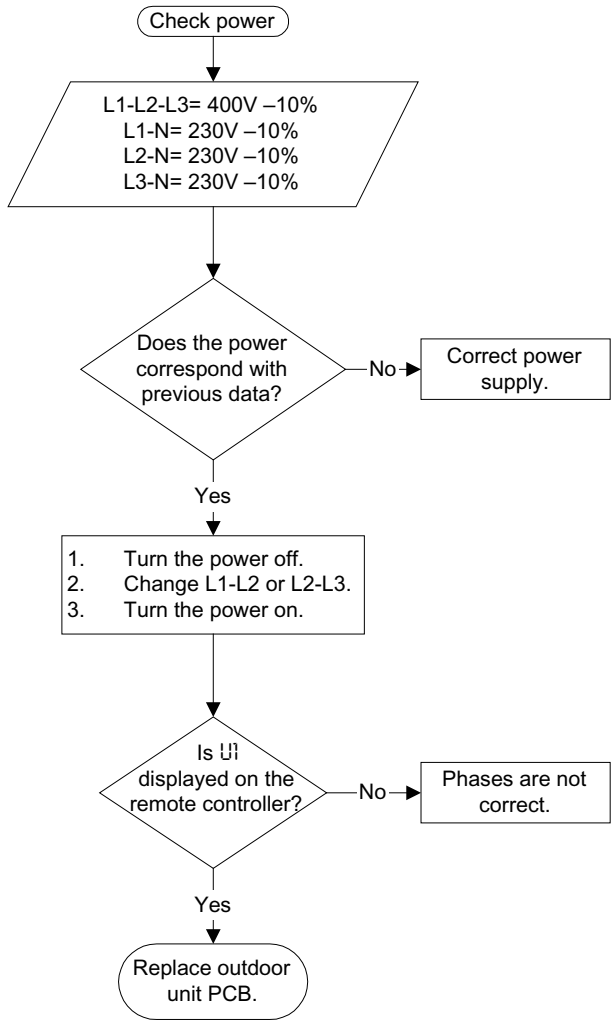
Causes

The possible causes are:

- ➤ Malfunctioning power supply wiring connection
- ➤ Broken or disconnected power supply wiring
- ➤ Malfunctioning outdoor unit PCB

Troubleshooting

To troubleshoot, proceed as follows:



Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

4.4 Transmission Error between Indoor and Outdoor Unit (U4 or UF)

Error code

U4 or UF

Error generation

The error is generated when the microprocessor detects that the transmission between the indoor and the outdoor unit is not normal over a certain amount of time.

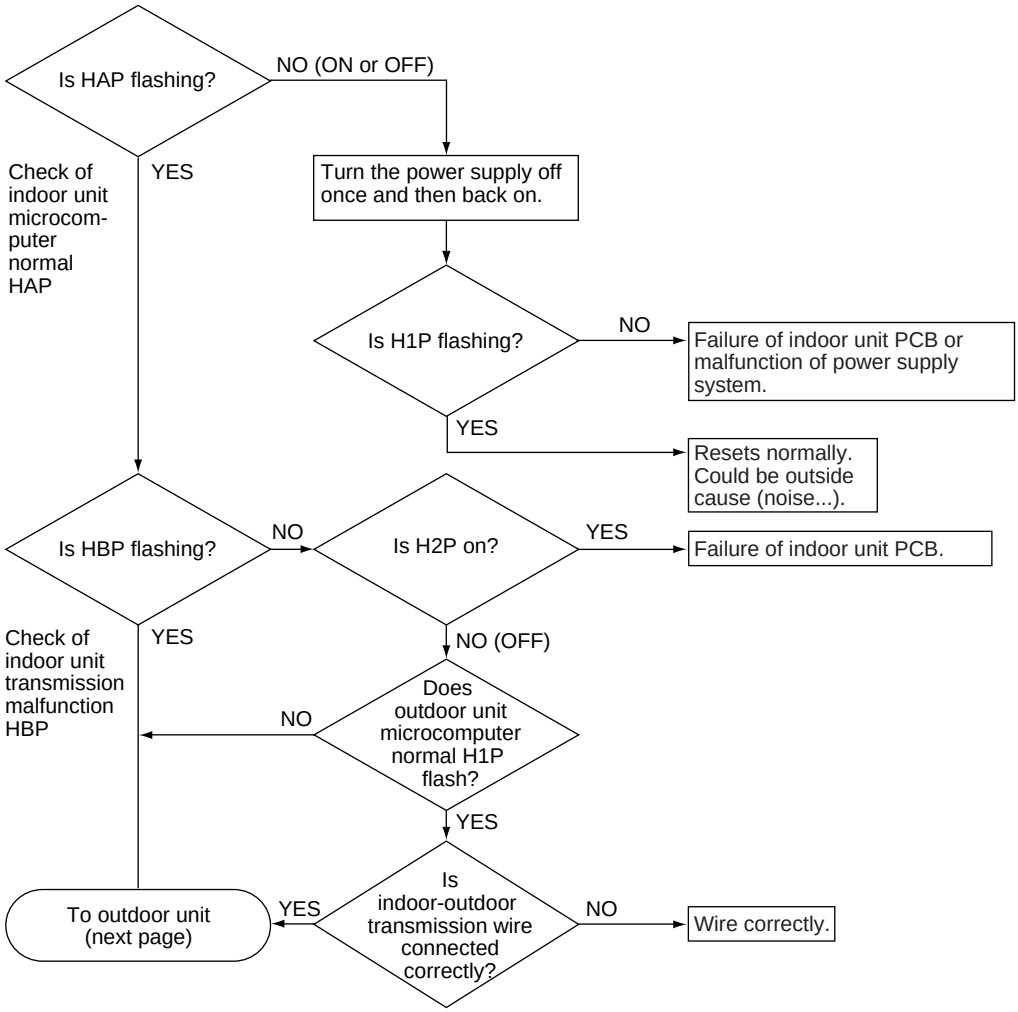
Causes

The possible causes are:

- ➤ Wiring indoor-outdoor transmission wire is incorrect
- ➤ Malfunctioning indoor unit PCB
- ➤ Malfunctioning outdoor unit PCB
- ➤ Outside cause (noise...).

Troubleshooting 1

Diagnosis of incorrect or broken/disconnected wiring. If the LEDs on the indoor unit PC board are off, it indicates that the transmission wiring between indoor and outdoor units may be incorrect or broken/disconnected.:

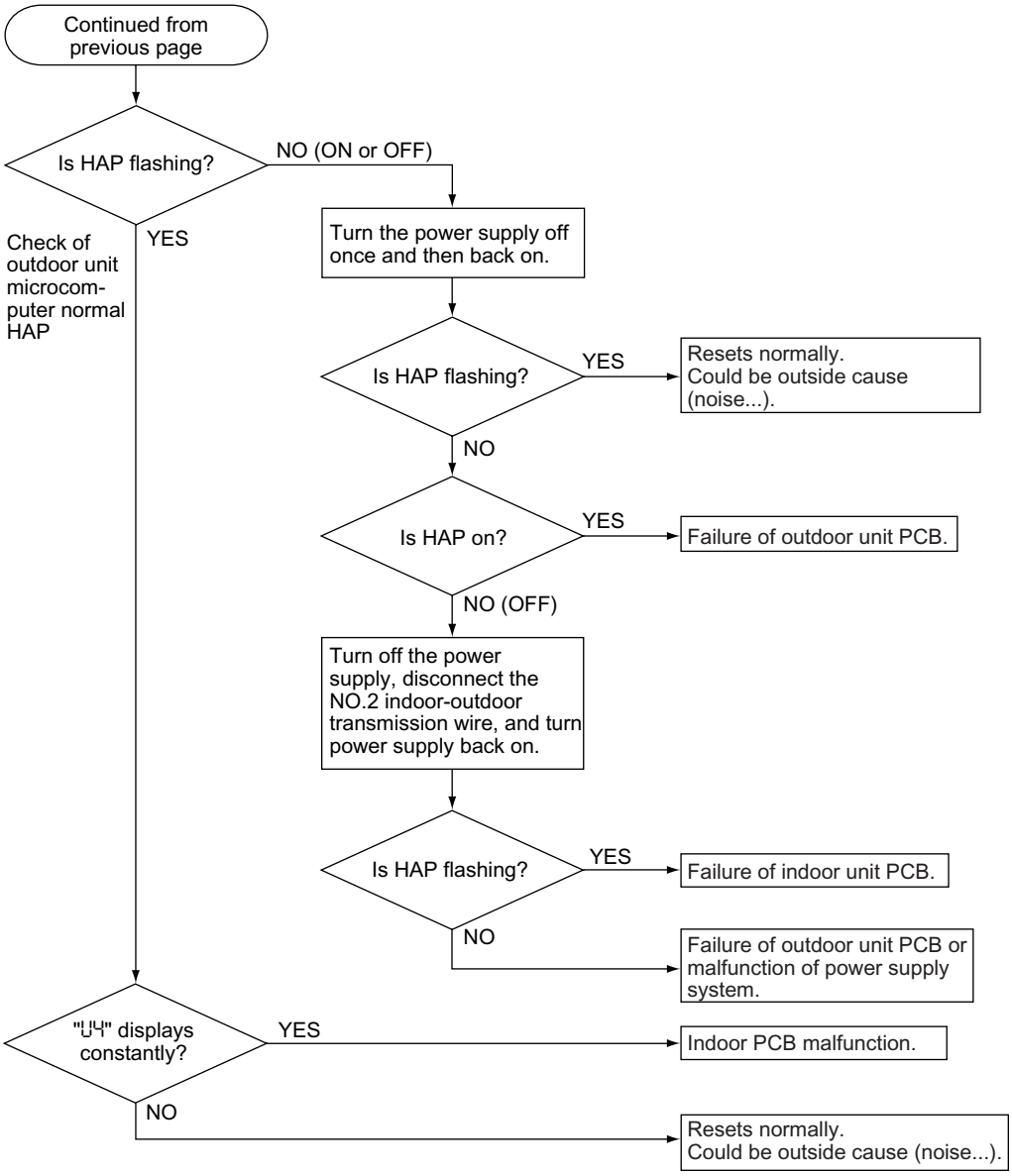


Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

Troubleshooting 2

To troubleshoot, proceed as follows:


Continued from previous page
Is HAP flashing?
NO (ON or OFF)
YES
Check of outdoor unit microcom-puter normal HAP
Turn the power supply off once and then back on.
Is HAP flashing?
YES
Resets normally. Could be outside cause (noise...).
NO
Is HAP on?
YES
Failure of outdoor unit PCB.
NO (OFF)
Turn off the power supply, disconnect the NO.2 indoor-outdoor transmission wire, and turn power supply back on.
Is HAP flashing?
YES
Failure of indoor unit PCB.
NO
Failure of outdoor unit PCB or malfunction of power supply system.
"UH" displays constantly?
YES
Indoor PCB malfunction.
NO
Resets normally. Could be outside cause (noise...).

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

4.5 Transmission Error between Indoor Unit and Remote Controller (U5)

Error code

U5

Error generation

The error is generated when the microprocessor detects that the transmission between the indoor unit and the remote controller is not normal over a certain amount of time.

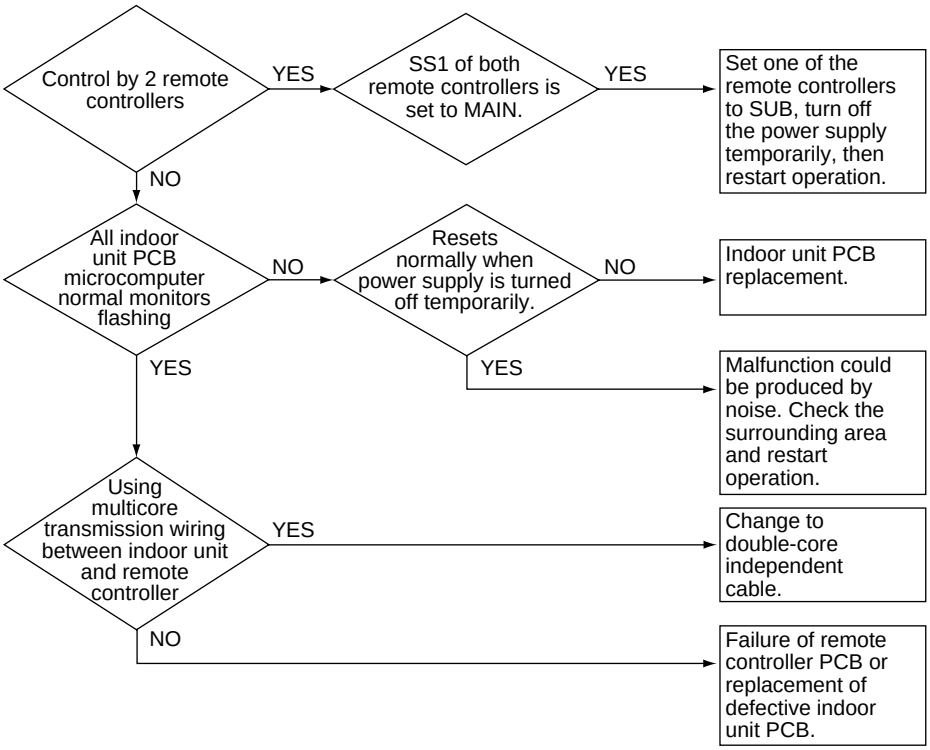
Causes

The possible causes are:

- ➤ Malfunctioning remote controller
- ➤ Malfunctioning indoor PCB
- ➤ Outside cause (noise...)
- ➤ Connection of two master remote controllers (when using two remote controllers).

Troubleshooting

To troubleshoot, proceed as follows:


Control by 2 remote controllers
YES
SS1 of both remote controllers is set to MAIN.
YES
Set one of the remote controllers to SUB, turn off the power supply temporarily, then restart operation.
NO
All indoor unit PCB microcomputer normal monitors flashing
NO
Resets normally when power supply is turned off temporarily.
NO
Indoor unit PCB replacement.
YES
YES
Malfunction could be produced by noise. Check the surrounding area and restart operation.
Using multicore transmission wiring between indoor unit and remote controller
YES
Change to double-core independent cable.
NO
Failure of remote controller PCB or replacement of defective indoor unit PCB.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

4.6 Transmission Error between MAIN Remote Controller and SUB Remote Controller (U8)

Error code

U8

Error generation

The error is generated when, in case of controlling with two remote controllers, the microprocessor detects that the transmission between the indoor unit and the remote controllers (MAIN and SUB) is not normal over a certain amount of time.

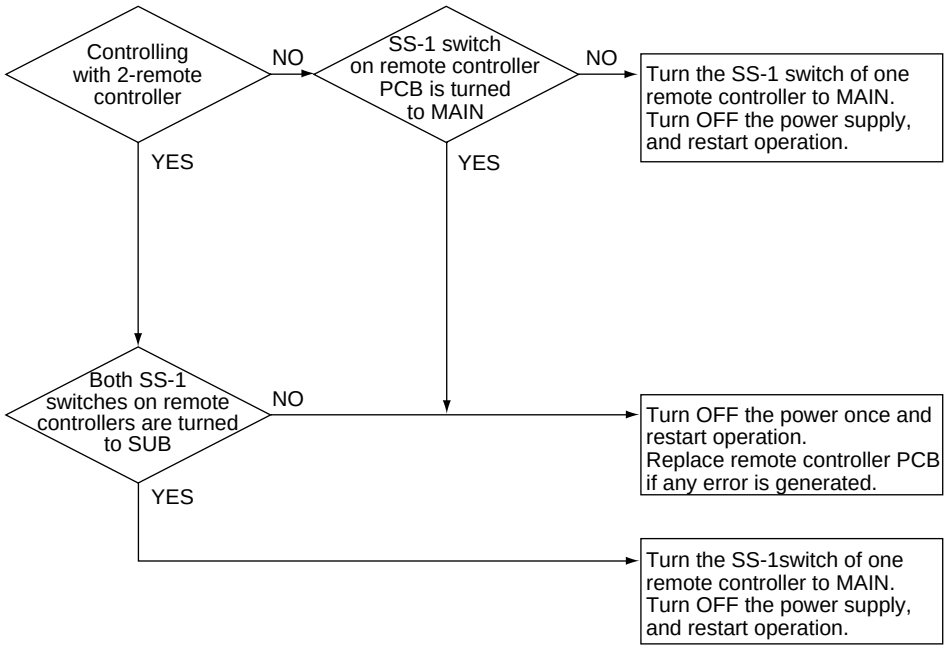
Causes

The possible causes are:

- ➤ Transmission error between MAIN remote controller and SUB remote controller
- ➤ Connection among SUB remote controllers
- ➤ Malfunctioning remote controller PCB.

Troubleshooting

To troubleshoot, proceed as follows:


Controlling with 2-remote controller
NO
SS-1 switch on remote controller PCB is turned to MAIN
NO
Turn the SS-1 switch of one remote controller to MAIN. Turn OFF the power supply, and restart operation.
YES
YES
Both SS-1 switches on remote controllers are turned to SUB
NO
Turn OFF the power once and restart operation. Replace remote controller PCB if any error is generated.
YES
Turn the SS-1switch of one remote controller to MAIN. Turn OFF the power supply, and restart operation.

Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

4.7 Malfunctioning Field Setting Switch (UA)

Error code

UA

Error generation

The error is generated when incorrect field settings have been set for pair/twin/triple/double twin.

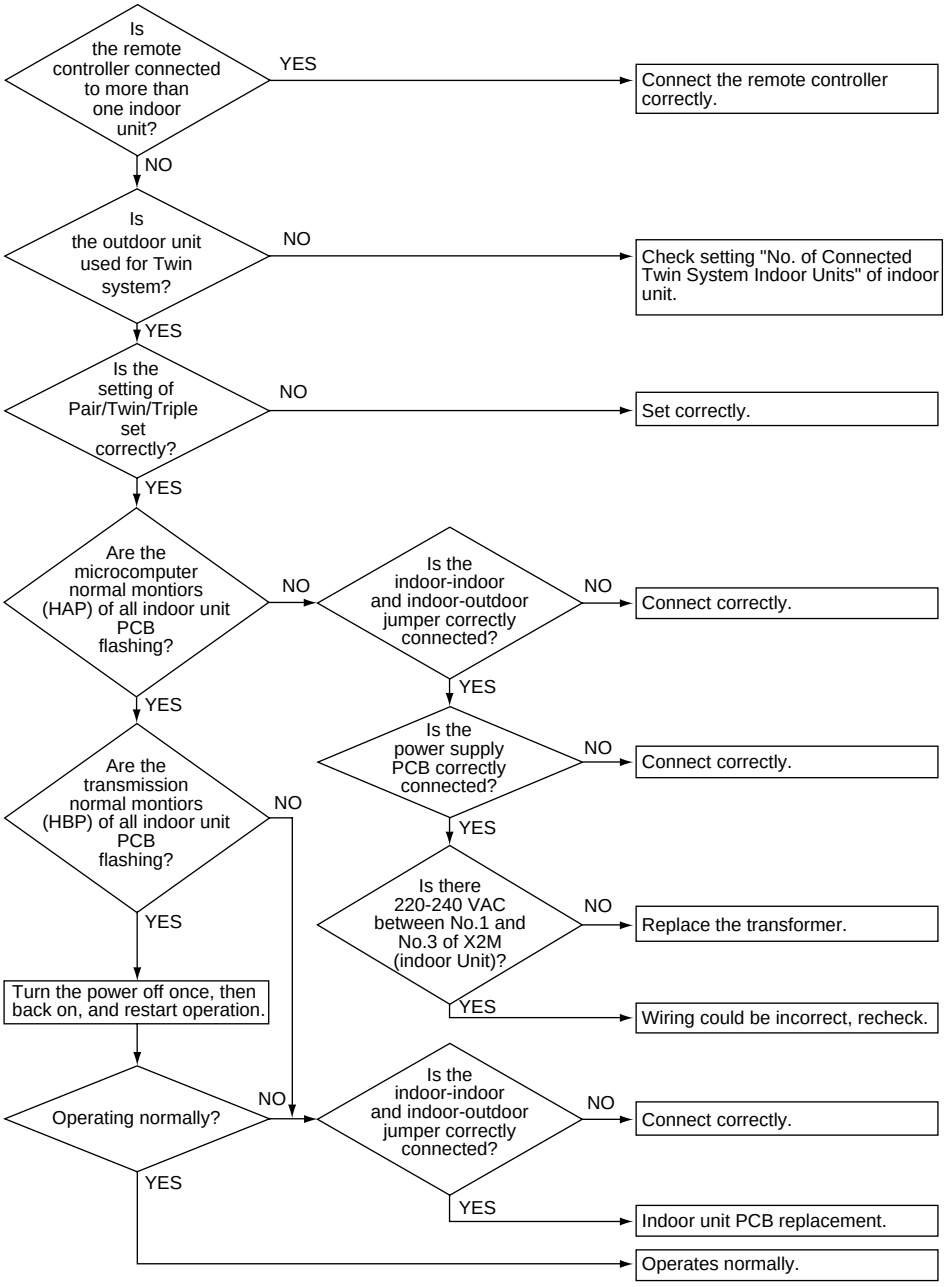
Causes

The possible causes are:

- ➤ Malfunctioning indoor or outdoor unit PCB
- ➤ Malfunctioning power supply PCB
- ➤ Indoor-outdoor, indoor-indoor unit transmission wiring
- ➤ Malfunctioning remote controller wiring.

Troubleshooting

To troubleshoot, proceed as follows:



Caution

Be sure to turn off power switch before connecting or disconnecting the connector, or parts damage may occur.

5 Additional Checks for Troubleshooting

5.1 What Is in This Chapter?

Introduction

This chapter explains how you must check the units to carry out troubleshooting correctly.

Overview

This chapter contains the following topics:

Topic	See page
5.2–Indoor Unit: Checking the Fan Motor Hall IC	3–72
5.3–Indoor Unit: Checking the Power Supply Wave Form	3–73
5.4–Outdoor Unit: Checking the Refrigerant System	3–74
5.5–Outdoor unit: Checking the Installation Condition	3–75
5.6–Outdoor Unit: Checking the Discharge Pressure	3–76
5.7–Outdoor Unit: Checking the Expansion Valve	3–77
5.8–Checking the Thermistors	3–78
5.9–R1T and R2T	3–79
5.10–R3T	3–80
5.11–Evaluation of abnormal high pressure	3–81
5.12–Evaluation of abnormal low pressure	3–82
5.13–Check for Clogged Points	3–83

5.2 Indoor Unit: Checking the Fan Motor Hall IC

Applicable units

Units using phase cut controlled fan motor with feedback signal.

Checking

To check the indoor unit fan motor hall IC, proceed as follows:

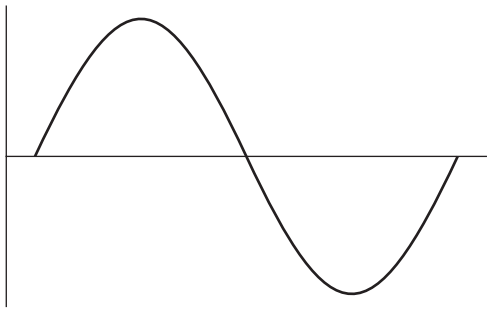
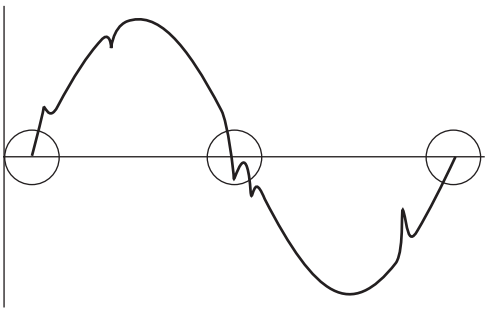
Step	Action
1	Make sure connector S7 on PCB 1 is properly connected.
2	Make sure the power is ON and that there is no operation.
3	Measure the voltage between pin 1 and 3 of S7.
4	Turn the fan one rotation with your hand and measure the generated pulses.
5	Proceed as follows:

If...	Then...
The measured voltage between pin 1 and 3 does not equal 5 V	Replace the PCB 1.
The generated pulses do not equal 3 pulses between pin 2 and 3	Replace the fan motor.
The measured voltage does not equal 5 V and the generated pulses do not equal 3 pulses between pin 2 and 3	Replace the PCB 1.

5.3 Indoor Unit: Checking the Power Supply Wave Form

Checking

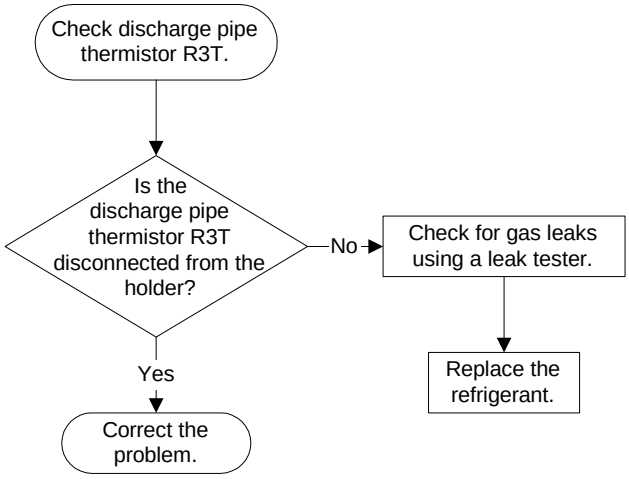
To check the power supply wave form, proceed as follows:

Step	Action
1	Measure the power supply wave form between pin 1 and 3 of X1M for the outdoor units or between pin 1 and 3 of X2M for the indoor units.
2	Check whether the power supply wave form is a sine wave: 
3	Check whether there is wave form disturbance near the zero cross: 
4	Adjust the supply voltage.

5.4 Outdoor Unit: Checking the Refrigerant System

Checking

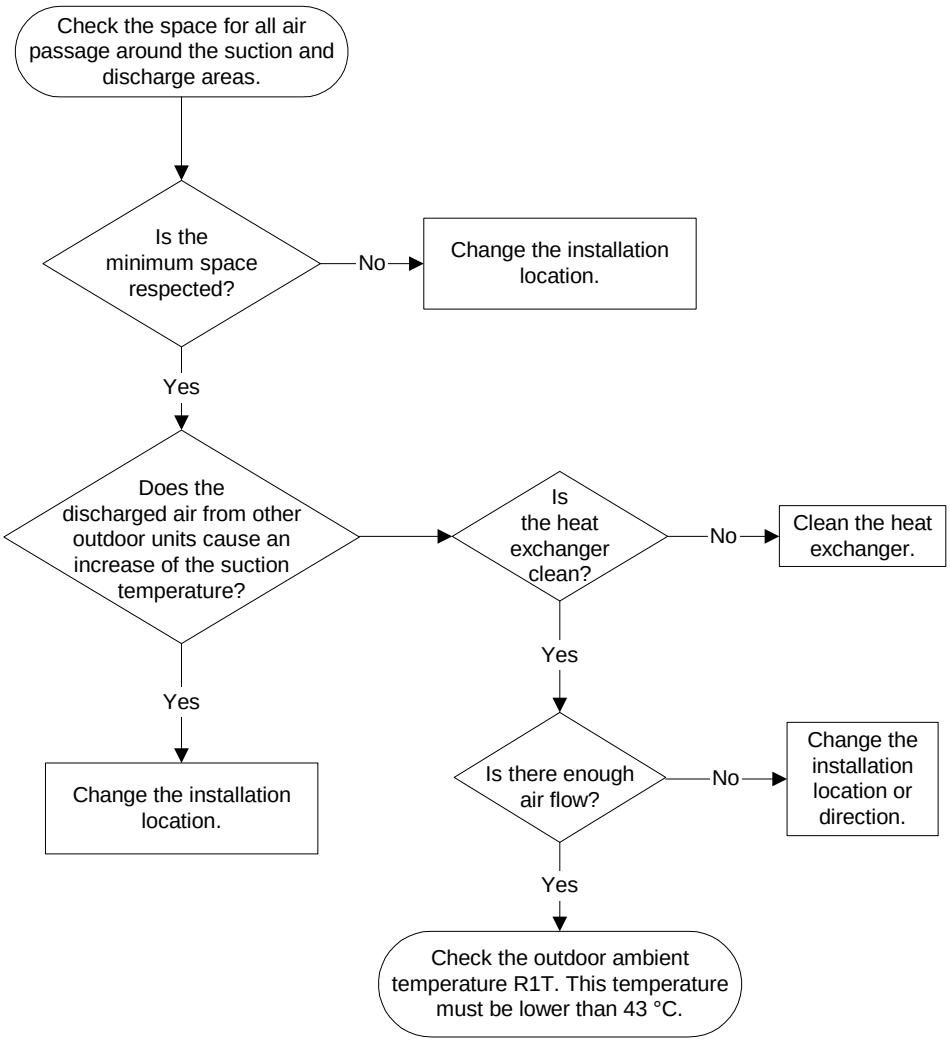
To check the refrigerant system, proceed as follows:


Check discharge pipe thermistor R3T.
Is the discharge pipe thermistor R3T disconnected from the holder?
No
Check for gas leaks using a leak tester.
Replace the refrigerant.
Yes
Correct the problem.

5.5 Outdoor unit: Checking the Installation Condition

Checking

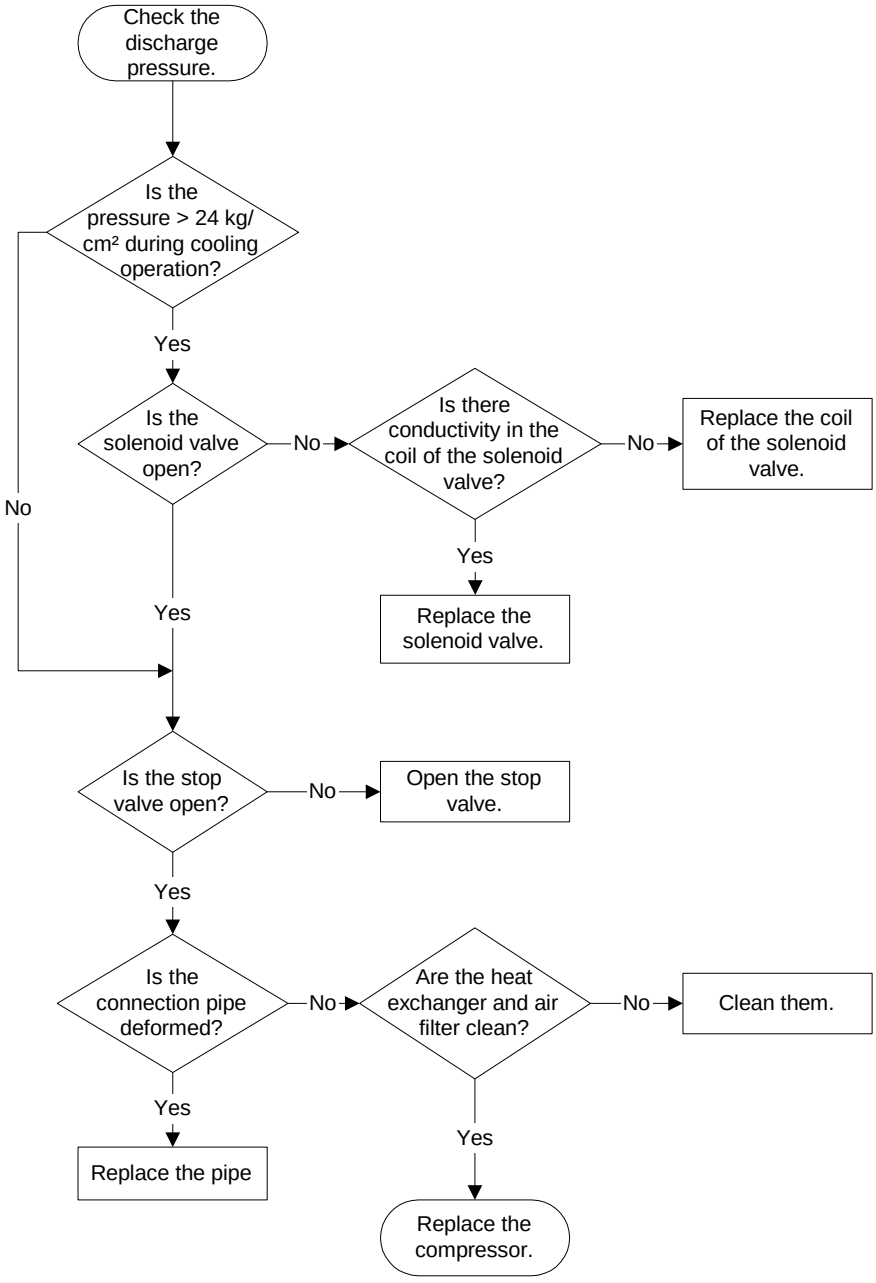
To check the installation condition, proceed as follows:


Check the space for all air passage around the suction and discharge areas.
Is the minimum space respected?
No
Change the installation location.
Yes
Does the discharged air from other outdoor units cause an increase of the suction temperature?
Is the heat exchanger clean?
No
Clean the heat exchanger.
Yes
Yes
Change the installation location.
Is there enough air flow?
No
Change the installation location or direction.
Yes
Check the outdoor ambient temperature R1T. This temperature must be lower than 43 °C.

5.6 Outdoor Unit: Checking the Discharge Pressure

Checking

To check the discharge pressure, proceed as follows:



5.7 Outdoor Unit: Checking the Expansion Valve

Checking

To check the electronic expansion valve, proceed as follows:

Step	Action
1	Check if the expansion valve connector is correctly inserted in the X24A of PCB 1.
2	Compare the expansion valve unit with the number of the connector to make sure it is correctly connected.
3	Switch the power OFF.
4	Switch the power ON to check whether the expansion valve is producing a clicking sound.

If...	Then...
The expansion valve has no clicking sound	Disconnect the valve connector without the clicking sound and proceed to step 5.

5	Check the coil current: Open circuit < normal < short circuit The table below contains the reference resistance values.

—	Grey	Black	Yellow	Red	Orange
Grey	—	40-50 Ω	40-50 Ω	40-50 Ω	40-50 Ω
Black	40-50 Ω	—	80-100 Ω	80-100 Ω	80-100 Ω
Yellow	40-50 Ω	80-100 Ω	—	80-100 Ω	80-100 Ω
Red	40-50 Ω	80-100 Ω	80-100 Ω	—	80-100 Ω
Orange	40-50 Ω	80-100 Ω	80-100 Ω	80-100 Ω	—

6	Check the clicking sound again.

If...	Then...
There is a clicking sound	The expansion valve works properly.
There is no clicking sound	Replace the expansion valve unit.
There is still no clicking sound	Replace outdoor PCB 1.

5.8 Checking the Thermistors

Thermistors

If the cause of the problem is related to the thermistors, then the thermistors should be checked prior to changing the PCB.

For more information about these thermistors, see:

- ➤ 'Wiring Diagrams: Outdoor Units'
- ➤ 'Wiring Diagrams: Indoor Units'
- ➤ "Functions of Thermistors" on page 4.

Overview of thermistors

The table below contains an overview of the thermistors:

Thermistor		Description
Indoor	R1T	Suction air thermistor
	R2T	Heat exchanger thermistor (coil thermistor)
Outdoor	R1T	Ambient air thermistor
	R2T	Heat exchanger thermistor (coil thermistor)
	R3T	Discharge pipe thermistor

Checking

To check the thermistors, proceed as follows:

Step	Action
1	Disconnect the thermistor from the PCB.
2	Read the temperature and the resistor value.
3	Check if the measured values correspond with the values in the table on the next pages.

5.9 R1T and R2T

Temperature – resistance

The table below is the thermistor (R1T and R2T) temperature – resistance conversion table.

Temp. (°C)	R1T (kΩ)	R2T (kΩ)	Temp. (°C)	R1T (kΩ)	R2T (kΩ)	Temp. (°C)	R1T (kΩ)	R2T (kΩ)
-20	197.81	192.08	20	25.01	24.45	60	4.96	4.87
-19	186.53	181.16	21	23.91	23.37	61	4.79	4.70
-18	175.97	170.94	22	22.85	22.35	62	4.62	4.54
-17	166.07	161.36	23	21.85	21.37	63	4.46	4.38
-16	156.80	152.38	24	20.90	20.45	64	4.30	4.23
-15	148.10	143.96	25	20.00	19.56	65	4.16	4.08
-14	139.94	136.05	26	19.14	18.73	66	4.01	3.94
-13	132.28	128.63	27	18.32	17.93	67	3.88	3.81
-12	125.09	121.66	28	17.54	17.17	68	3.75	3.68
-11	118.34	115.12	29	16.80	16.45	69	3.62	3.56
-10	111.99	108.96	30	16.10	15.76	70	3.50	3.44
-9	106.03	103.18	31	15.43	15.10	71	3.38	3.32
-8	100.41	97.73	32	14.79	14.48	72	3.27	3.21
-7	95.14	92.61	33	14.18	13.88	73	3.16	3.11
-6	90.17	87.79	34	13.59	13.31	74	3.06	3.01
-5	85.49	83.25	35	13.04	12.77	75	2.96	2.91
-4	81.08	78.97	36	12.51	12.25	76	2.86	2.82
-3	76.93	74.94	37	12.01	11.76	77	2.77	2.72
-2	73.01	71.14	38	11.52	11.29	78	2.68	2.64
-1	69.32	67.56	39	11.06	10.84	79	2.60	2.55
0	65.84	64.17	40	10.63	10.41	80	2.51	2.47
1	62.54	60.96	41	10.21	10.00			
2	59.43	57.94	42	9.81	9.61			
3	56.49	55.08	43	9.42	9.24			
4	53.71	52.38	44	9.06	8.88			
5	51.09	49.83	45	8.71	8.54			
6	48.61	47.42	46	8.37	8.21			
7	46.26	45.14	47	8.05	7.90			
8	44.05	42.98	48	7.75	7.60			
9	41.95	40.94	49	7.46	7.31			
10	39.96	39.01	50	7.18	7.04	—		
11	38.08	37.18	51	6.91	6.78			
12	36.30	35.45	52	6.65	6.53			
13	34.62	33.81	53	6.41	6.53			
14	33.02	32.25	54	6.65	6.53			
15	31.50	30.77	55	6.41	6.29			
16	30.06	29.37	56	6.18	6.06			
17	28.70	28.05	57	5.95	5.84			
18	27.41	26.78	58	5.74	5.43			
19	26.18	25.59	59	5.14	5.05			

5.10 R3T

Temperature – resistance

The table below is the thermistor (R3T) temperature – resistance conversion table.

Temp. (°C)	Resist. (kΩ)
—	—
—	—
-6.0	1120.0
-4.0	1002.5
-2.0	898.6
0.0	806.5
2.0	724.8
4.0	652.2
6.0	587.6
8.0	530.1
10.0	478.8
12.0	432.9
14.0	392.0
16.0	355.3
18.0	322.4
20.0	292.9
22.0	266.3
24.0	242.5
26.0	221.0
28.0	201.6
30.0	184.1
32.0	168.3
34.0	154.0
36.0	141.0
38.0	129.3
40.0	118.7
42.0	109.0
44.0	100.2
46.0	92.2
48.0	84.9
50.0	78.3
52.0	72.2
54.0	66.7
56.0	61.6
48.0	57.0

Temp. (°C)	Resist. (kΩ)
60.0	52.8
62.0	48.9
64.0	45.3
66.0	42.0
68.0	39.0
70.0	36.3
72.0	33.7
74.0	31.4
76.0	29.2
78.0	27.2
80.0	25.4
82.0	23.7
—	—
—	—
—	—
—	—
92.0	16.9
94.0	15.8
96.0	14.8
98.0	13.9
100.0	13.1
102.0	12.3
104.0	11.5
106.0	10.8
108.0	10.2
110.0	9.6
112.0	9.0
114.0	8.5
116.0	8.0
118.0	7.6
120.0	7.1
122.0	6.7
124.0	6.4
126.0	6.0
128.0	5.7

Temp. (°C)	Resist. (kΩ)
130.0	5.4
132.0	5.4
134.0	4.8
136.0	4.6
138.0	4.3
140.0	4.1
142.0	3.9
144.0	3.7
146.0	3.5
148.0	3.3
150.0	3.2
152.0	3.0
154.0	2.9
156.0	2.7
158.0	2.6
160.0	2.5
162.0	2.3
164.0	2.5
166.0	2.1
168.0	2.0
170.0	1.9
172.0	1.9
174.0	1.8
176.0	1.7
178.0	1.6
180.0	1.5
—	

5.11 Evaluation of abnormal high pressure

Abnormally high pressure level is mostly caused by the condenser side. The following contents are provided by service engineer based on their field checks. Further, the number is listed in the order of degree of influence.

In cooling operation

Check items (Possible causes)	Judgment
Does the outdoor unit fan run normally?	Visual inspection
Is the outdoor unit heat exchanger clogged?	Visual inspection
Is there clogging before or after the EV (capillary)?	Check if there is a temperature difference before and after EV (capillary). Check if the main valve unit of EV operates (by noise, vibration).
Is the check valve clogged? *Heat pump model only	Check if there is a temperature difference before and after check valve. --> If YES, the check valve is caught.
Is the HPS normal?	Check continuity by using a tester.
Is the outdoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is the piping length 5 meters or less?	Visual inspection
Does air enter the refrigerant system?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.
Is the refrigerant overcharged?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

In heating operation

Check items (Possible causes)	Judgment
Does the indoor unit fan run normally?	Visual inspection
Is the indoor unit heat exchanger clogged?	Visual inspection
Is the indoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is there clogging before or after the EV (capillary)?	Check if there is a temperature difference before and after EV (capillary). Check if the main valve unit of EV operates (by noise, vibration).
Is the check valve clogged?	Check if there is a temperature difference before and after check valve. --> If YES, the check valve is caught.
Is the HPS normal?	Check continuity using a tester.
Is the piping length 5 meters or less?	Visual inspection
Does air enter the refrigerant system?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.
Is the refrigerant overcharged?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

5.12 Evaluation of abnormal low pressure

Abnormally low pressure level is mostly caused by the evaporator side. The following contents are provided based on field checking of service engineer. Further, the number is listed in the order of degree of influence.

In cooling operation

Check items (Possible causes)	Judgment
Does the outdoor unit fan run normally?	Visual inspection
Is the indoor unit filter clogged?	Visual inspection
Is there clogging before or after the EV (capillary)?	Check if there is a temperature difference before and after EV (capillary). Check if the main valve unit of EV operates (by noise, vibration).
Is the check valve clogged? *Heat pump model only	Check if there is a temperature difference before and after check valve. -> If YES, the check valve is caught.
Is the LPS normal?	Check continuity using a tester.
Is the indoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is the refrigerant gas short?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

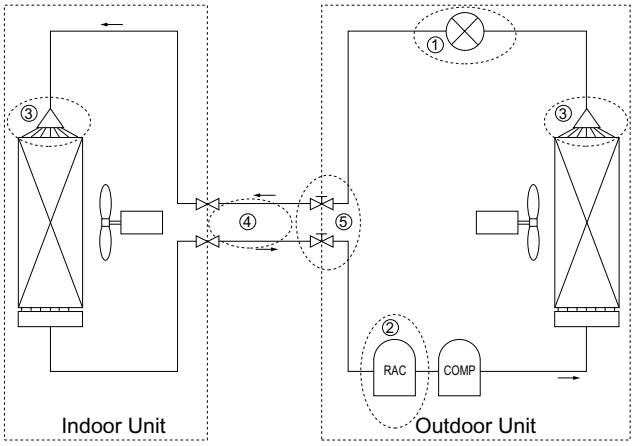
In heating operation

Check items (Possible causes)	Judgment
Does the outdoor unit fan run normally?	Visual inspection
Is the outdoor unit heat exchanger clogged?	Visual inspection
Is the outdoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is there clogging before or after the EV (capillary)?	Check if there is a temperature difference before and after EV (capillary). Check if the main valve unit of EV operates (by noise, vibration).
Is the check valve clogged?	Check if there is a temperature difference before and after check valve. --> If YES, the check valve is caught.
Is the LPS normal?	Check continuity using a tester.
Is the refrigerant gas short?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

5.13 Check for Clogged Points

Checks

Temperature differences must occur before or after the clogged points!



Check points		Check factor	Causes	Remedies
1	Around expansion mechanism	Temperature difference	➤ Dust ➤ Choked moisture ➤ Reduced effective pipe diameter due to adherent contamination, etc.	Replace the expansion valve.
2	Accumulator	Frosting	➤ Choked moisture	Blow a nitrogen gas, and then replace the refrigerant.
3	Distributor	Temperature difference	➤ Dust ➤ Choked moisture ➤ Reduced effective pipe diameter due to adherent contamination, etc.	Replace the heat exchanger or distributor.
4	Field piping	Temperature difference	➤ Collapsed pipe	Replace the pipe.
5	Stop valve	Temperature difference	➤ The stop valve is not fully open.	Open the stop valve fully.

Part 4
Commissioning and Test Run

What is in this part? This part contains the following chapters:

Chapter	See page
1–Pre-Test Run Checks	4–3
2–Field settings	4–9
3–Test Run and Operation Data	4–33

1 Pre-Test Run Checks

1.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- ➤ Checks before test run
- ➤ Test run checks
- ➤ Setting the address for the receiver of the wireless remote controller
- ➤ Setting the address for the wireless remote controller.

Overview

This chapter contains the following topics:

Topic	See page
1.2–Test Run Checks	4–4
1.3–Setting the Wireless Remote Controller	4–5

1.2 Test Run Checks

Checks before test run

Before carrying out a test run, proceed as follows:

Step	Action
1	Make sure the voltage at the primary side of the safety breaker is: ➤ 230 V ± 10% for 1-phase units ➤ 400V ± 10% for 3-phase units.
2	Fully open the liquid and the gas stop valve.

Test run checks

To carry out a test run, check the following:

➤ Check that the temperature setting of the remote controller is at the lowest level or test mode.

➤ Switch ON the indoor units one by one to check whether they operate correctly. Afterwards, switch ON all units to check whether they all operate simultaneously.

➤ Go through the following checklist:

Checkpoints	Cautions or warnings
Are all units securely installed?	➤ Dangerous for turning over during storm. ➤ Possible damage to pipe connections.
Is the earth wire installed according to the applicable local standard?	Dangerous if electric leakage occurs.
Are all air inlets and outlets of the indoor and outdoor units unobstructed?	➤ Poor cooling. ➤ Poor heating.
Does the drain flow out smoothly?	Water leakage.
Is piping adequately heat-insulated?	Water leakage.
Have the connections been checked for gas leakage?	➤ Poor cooling. ➤ Poor heating. ➤ Stop.
Is the supply voltage conform to the specifications on the name plate?	Incorrect operation.
Are the cable sizes as specified?	Damage of cables.
Are the remote controller signals received by the unit?	No operation.

1.3 Setting the Wireless Remote Controller

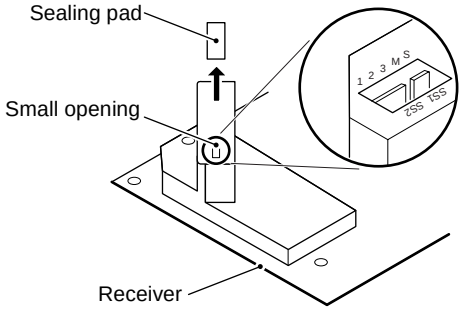
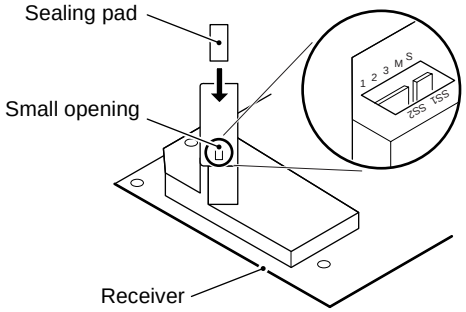
Introduction

To set the wireless remote controller, you have to set the address for:

- ➤ The receiver of the wireless remote controller
- ➤ The wireless remote controller.

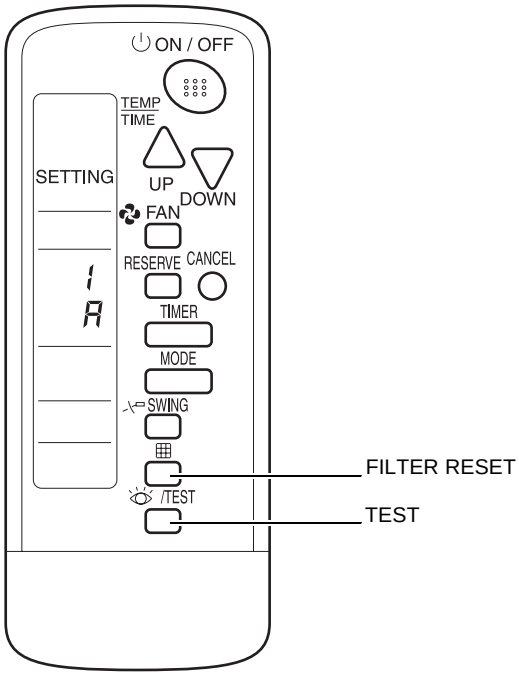
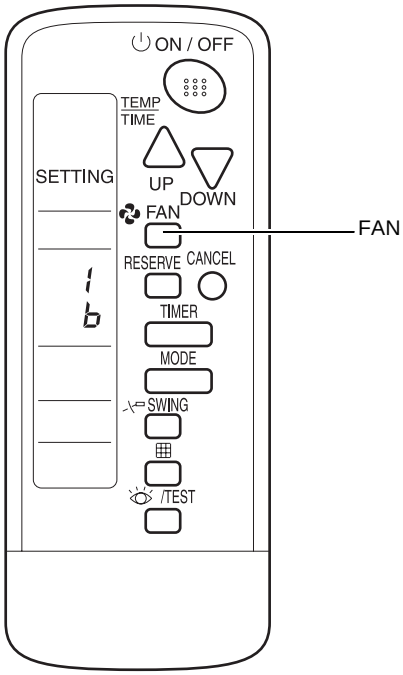
Setting the address for the receiver

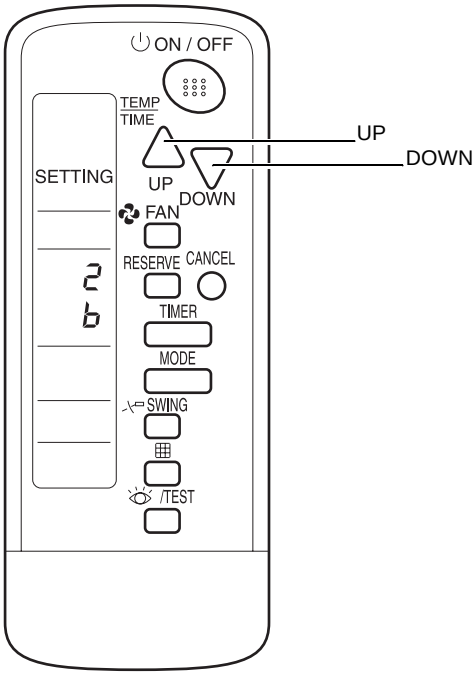
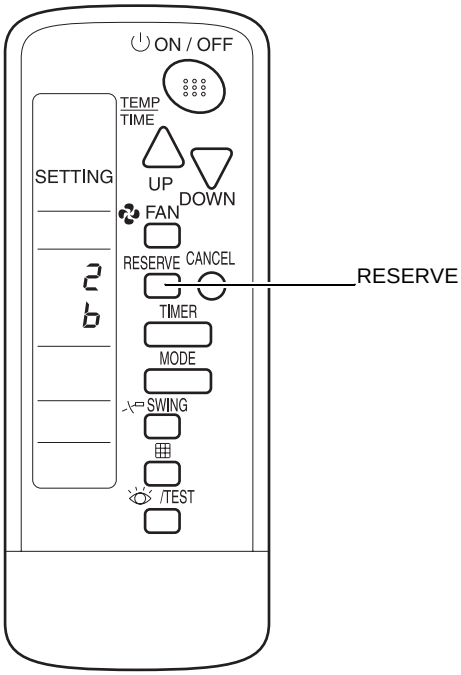
The address for the receiver of the wireless remote controller is factory set to 1. To change this setting, proceed as follows:

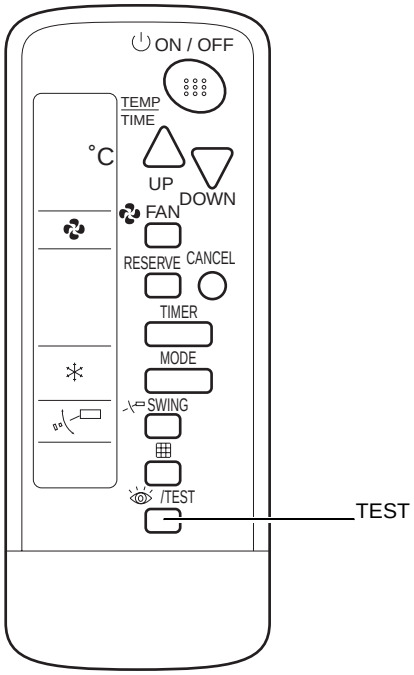
Step	Action
1	Turn OFF the power.
2	Remove the sealing pad on the top of the receiver. 
3	Set the wireless address switch (SS2) according to the table below. You can find the wireless address switch attached on the PCB of the receiver and it is visible through the small opening on the back of the receiver. **Unit No.** / No. 1 / No. 2 / No. 3 **SS2** / 1 2 3 / 1 2 3 / 1 2 3
4	If you use a wired and a wireless remote controller for one indoor unit, proceed as follows: 1. Set the wired remote controller to MAIN: On the remote controller. 2. Set the wireless remote controller to SUB: On the receiver with the MAIN/SUB switch (SS1). **MAIN/SUB** / MAIN / SUB **SS1** / S M / S M
5	Seal off the opening of the address switch and the MAIN/SUB switch with the attached sealing pad. 
6	Make sure to also change the address on the remote controller.

Setting the address for the wireless remote controller

The address for the wireless remote controller is factory set to 1. To change this setting, proceed as follows:

Step	Action
1	Hold down the FILTER RESET button and the TEST button for at least 4 s, to go to field set mode. The display indicates the field set mode. 
2	Press the FAN button to select a multiple setting (A/b), see ‘Multiple settings A/b’ further in this section. Each time you press the button, the display switches between “A” and “b”. 

Step	Action
3	Press the UP and DOWN buttons to set the address. Set the same address as the receiver (1, 2 or 3). The receiver does not work with addresses 4, 5 and 6. 
4	Press the RESERVE button to confirm the setting. 

Step	Action
5	Press the TEST button to quit the field set mode and return to the normal display. 

Multiple settings A/b

When an outside control (central remote controller...) controls an indoor unit, sometimes the indoor unit does not respond to ON/OFF and temperature settings commands from this controller.

Remote controller		Indoor unit	
Setting	**Remote controller display**	**Control of other air conditioners and units**	**No other control**
A: Standard	All items are displayed.	Commands other than ON/OFF and temperature setting accepted. (1 long beep or 3 short beeps emitted)	
b: Multi System	Only one item is displayed. This item is only shown for a few seconds.	All commands accepted (2 short beeps)	

2 Field settings

2.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- ➤ How to change the field settings
- ➤ The field settings
- ➤ The factory settings.

Overview

This chapter contains the following topics:

Topic	See page
2.2–How to Change the Field Settings with the Wired Remote Controller	4–10
2.3–How to Change the Field Settings with the Wireless Remote Controller	4–12
2.4–Overview of the Field Settings of the Indoor Units	4–13
2.5–Overview of the Factory Settings of the Indoor Units	4–14
2.6–Setting the Ceiling Height	4–15
2.7–Setting the Filter Counter	4–16
2.8–MAIN/SUB Setting when Using Two Remote Controllers	4–17
2.9–Setting the Centralized Group No.	4–18
2.10–Field settings when using a spare part PCB of Sky-Air L-series outdoor unit	4–20
2.11–The Field Setting Levels	4–23
2.12–Overview of the Field Settings: R(Y)P71-125L	4–26
2.13–Jumpers	4–28
2.14–DIP switch DS1	4–29
2.15–DIP switch DS2	4–30

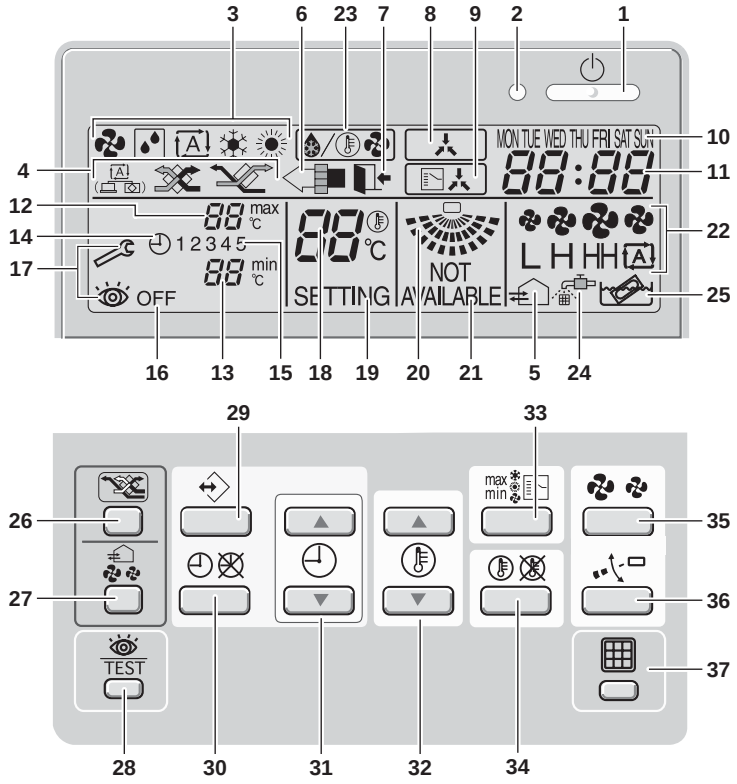
2.2 How to Change the Field Settings with the Wired Remote Controller

Installation conditions

The field settings have to be changed with the remote controller according to the installation conditions.

Wired remote controller

The illustration below shows the wired remote controller.



Components

The table below contains the components of the wired remote controller.

No.	Component	No.	Component
1	ON/OFF button	20	Air flow direction icon
2	Operation lamp	21	Not available
3	Operation mode icon	22	Fan speed icon
4	Ventilation mode icon	23	Defrost/hotstart mode icon
5	Ventilation icon	24	Air filter cleaning time icon
6	Air cleaning icon	25	Element cleaning time icon
7	Leave home icon	26	Ventilation mode button
8	External control icon	27	Ventilation amount button
9	Change-over under centralised control icon	28	Inspection/test operation button
10	Day of the week indicator	29	Programming button
11	Clock display	30	Schedule timer button
12	Maximum set temperature	31	Time adjust button
13	Minimum set temperature	32	Temperature adjust buttons
14	Schedule timer icon	33	Operation change/ button
15	Action icons	34	Setpoint/limit button
16	Off icon	35	Fan speed button
17	Inspection required	36	Air flow direction adjust button
18	Set temperature display	37	Air filter cleaning time icon reset
19	Setting		

Setting

To set the field settings, you have to change:

- ➤ “Mode No.”
- ➤ “First code No.”
- ➤ “Second code No.”.

To change the field settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the “Field setting mode”.
2	Press the TEMPERATURE CONTROL button until the desired “Mode No.” appears.
3	➤ If the indoor unit is under group control, all settings for all the indoor units are set at the same time. Use the codes 10 to 15 to apply this group control and proceed to the next step. ➤ If you want to set the indoor units of one group individually or if you want to read out the last settings, use the codes 20 to 25 which are displayed in brackets. Press the TIMER SELECTION button to select the “Indoor unit No.” for which you want to adjust the field settings.
4	Press the upper part of the PROGRAMMING TIME button to select the “First code No.”.
5	Press the lower part of the PROGRAMMING TIME button to select the “Second code No”.
6	Press the CONFIRMATION button to confirm the changed setting.
7	Press the INSPECTION/TEST button to return to “Normal mode”.

2.3 How to Change the Field Settings with the Wireless Remote Controller

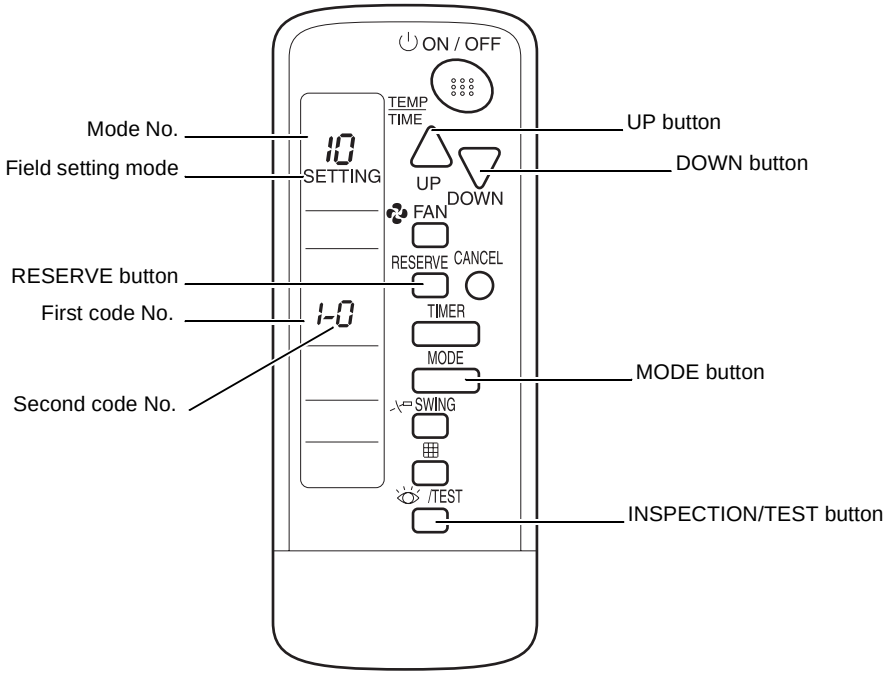
Optional accessories

If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed.

Refer to OH98-2 or the installation manual (optional handbook) for each optional accessory.

Wireless remote controller

The illustration below shows the wireless remote controller.



Setting

To set the field settings, you have to change:

- ➤ “Mode No.”
- ➤ “First code No.”
- ➤ “Second code No.”.

To change the field settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the “Field setting mode”.
2	Press the MODE button to select the desired “Mode No.”.
3	Press the UP button to select the “First code No.”.
4	Press the DOWN button to select the “Second code No.”
5	Press the RESERVE button to set the present settings.
6	Press the INSPECTION/TEST button to return to the “Normal mode”.

2.4 Overview of the Field Settings of the Indoor Units

Field settings The table below contains the possible field settings of all indoor units.

Mode No.	First code No.	Description of the setting	Second code No.			
			01	02	03	04
10 or 20	0	Filter counter	Light contamination	heavy contamination	—	—
	1	Filter type	Long	Super long	External	Oil mist
	2	Remote thermistor of the remote controller	TH1 = rem. controller	TH1 = air return	—	—
	3	Filter display	Filter indic.	No filter indic.	—	—
11 or 21	0	Number indoor to 1 outdoor	Pair	Twin	Triple	Double twin
	1	Unified or indiv. set twin	Group setting	Indiv. setting	—	—
	2	Fan OFF at thermostat OFF	LL-speed	OFF	—	—
12 or 22	0	KRP1B51/52/53 X1/X2 output	Thermostat ON	Option	Operation	Malfunction
	1	EKRORO	Forced OFF	ON/OFF operation	—	—
	3	Fan speed heating thermostat OFF	LL-speed	Set speed	—	—
	5	Automatic restart	Disabled	Enabled	—	—
13 or 23	0	Ceiling height setting	Normal	High	Extra high	—
			≤ 2.7 m	>2.7≤3.0 m	>3.0≤3.5 m	—
	1	Selection of air flow direction (setting for when a blocking pad kit has been installed).	4-way flow	3-way flow	2-way flow	—
	3	Horizontal discharge grill	Enabled	Disabled	—	—
	4	Air flow direction adjust range setting	Draft prevention	Standard	Ceil soil prevention	—
	5	Field fan speed changeover air outlet	Standard	Option 1	Option 2	—
	6	External static pressure	Normal	High	Low	—
14 or 24	0	Additional timer to guard timer	0 s	5 s	10 s	15 s
15 or 25	3	Drain pump during humidifying (heating)	No	Yes	—	—
	5	Ventilation unit indiv. setting	No	Yes	—	—
	6	Air-cleaner unit indiv. setting	No	Yes	—	—
1b	0	Permission level setting	Level 2	Level 3	—	—
	1	Leave home function	Not permitted	Permitted	—	—
	2	Thermostat sensor in remote controller (for limit operation and leave home function only)	Use	Not use	—	—

2.5 Overview of the Factory Settings of the Indoor Units

Factory settings The table below contains the factory settings of all indoor units

Mode No.	First code No.	Second code No.						
		FHYCP	FHYKP	FHYBP	FAYP	FDYP	FUYP	FHYP
10 or 20	0	01	01	01	01	01	01	01
	1	01	—	01	—	02	01	—
	2	02	02	02	—	02	02	02
	3	01	01	01	01	01	01	01
11 or 21	0	01	01	01	01	01	01	01
	1	01	01	01	01	01	01	01
	2	01	01	01	01	01	01	01
12 or 22	0	01	01	01	01	01	01	01
	3	01	—	01	—	—	—	—
	5	02	02	02	02	02	02	02
13 or 23	0	01	—	—	01	—	01	01
	1	01	—	—	—	—	—	—
	3	—	01	—	—	—	—	—
	4	02	02	—	—	—	—	—
	5	01	—	—	01	—	01	01
	6	—	01	01	—	—	—	—
14 or 24	0	01	01	01	—	01	01	01
15 or 25	3	01	01	01	—	01	01	01
	5	01	01	01	01	01	01	01
	6	01	01	01	01	01	01	01

2.6 Setting the Ceiling Height

Incorrectly setting

If you set the controller incorrectly, a connection mistake malfunction “UA” will appear on the remote controller display.

See ’Malfunctioning Field Setting Switch (UA)’ on page 3–69.

Mode No. 13 or 23
First code No. 0

Set the second code No., according to the tables below.

FHYP

Second code No.	Ceiling-suspended type
01	Height < 2.7 m
02	2.7 m < height < 3.5 m
03	Not used

FAYP

Second code No.	Wall-mounted type
01	Normal
02	High
03	Extra high

FHYCP and FUYP

Indoor unit	Second code No.	4-way outlet	3-way outlet	2-way outlet
FHYCP35-71	01	< 2.7 m	< 3.0 m	< 3.5 m
	02	< 3.0 m	< 3.3 m	< 3.8 m
	03	< 3.5 m	< 3.5 m	—
FHYCP100-125	01	< 3.2 m	< 3.6 m	< 4.2 m
	02	< 3.6 m	< 4.0 m	< 4.2 m
	03	< 4.2 m	< 4.2 m	—
FUYP	01	< 2.7 m	< 3.0 m	< 3.5 m
	02	< 3.0 m	< 3.5 m	< 3.8 m
	03	< 3.5 m	< 3.8 m	—

2.7 Setting the Filter Counter

Mode No. 10 or 20 First code No. 0

When the filter counter indication time is set to ON, set the second code No., according to the table below

Unit	Mode No.	First code No.	Second code No.	Contamination
			01 light	02 heavy
FHYCP	10 or 20	0	±2500 hrs	±1250 hrs
FHYKP			±2500 hrs	±1250 hrs
FHYP			±2500 hrs	±1250 hrs
FUYP			±2500 hrs	±1250 hrs
FAYP~L			±200 hrs	±100 hrs
FATP~B			±200 hrs	±100 hrs
FHYBP			±2500 hrs	±1250 hrs
FDYMP			±2500 hrs	±1250 hrs
FDYP			±2500 hrs	±1250 hrs

Fan speed OFF when thermostat OFF

When the cool/heat thermostat is OFF, you can stop the indoor unit fan by switching the setting to “Fan OFF”. This setting is used as a countermeasure against odour, for example for barber shops and restaurants.

Mode No.	First code No.	Second code No.	Setting
11 or 21	2	01	—
		02	Fan OFF

Fan speed changeover when thermostat OFF

You can switch the fan speed to the set fan speed when the heating thermostat is OFF. This setting is called “Set Fan Speed”.

Mode No.	First code No.	Second code No.	Setting
12 or 22	3	01	LL fan speed
		02	Set fan speed

Air flow direction setting

Set the air flow direction of the indoor units as given in the table below. This setting is needed when the optional air outlet blocking pad has been installed. The “Second code No” is factory set to “01”.

Mode No	First code No	Second code No	Setting
13 or 23	1	01	F: four-direction air flow
		02	T: three-direction air flow
		03	W: two direction air flow

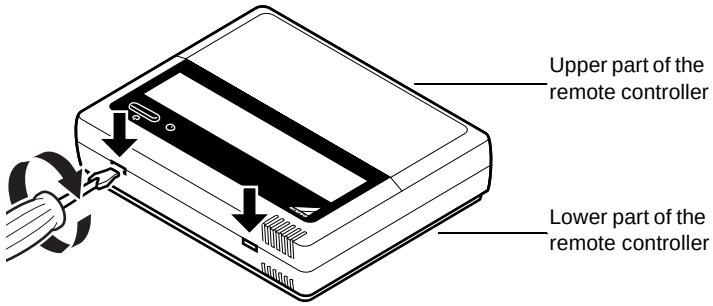
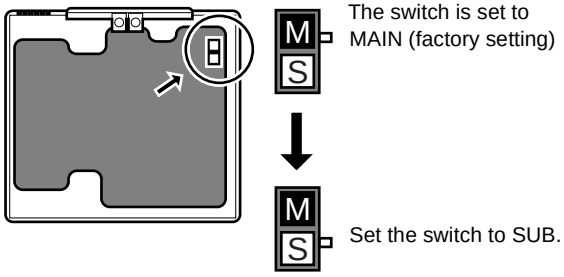
2.8 MAIN/SUB Setting when Using Two Remote Controllers

Situation

The MAIN/SUB setting is necessary when one indoor unit is controlled by two remote controllers. When you use two remote controllers (control panel and separate remote controller), set one to MAIN and the other to SUB. You can do this by setting the switch on the remote controller's PCB.

Setting

The remote controllers are factory set to MAIN, so you only have to change one remote controller from MAIN to SUB. To change a remote controller from MAIN to SUB, proceed as follows:

Step	Action
1	Insert a flathead screwdriver into the recess between the upper and lower part of the remote controller, as shown in the illustration below. Gently pry off the upper part of the controller, working from the two possible positions. 
2	Turn the MAIN/SUB changeover switch on the PCB to "S". 

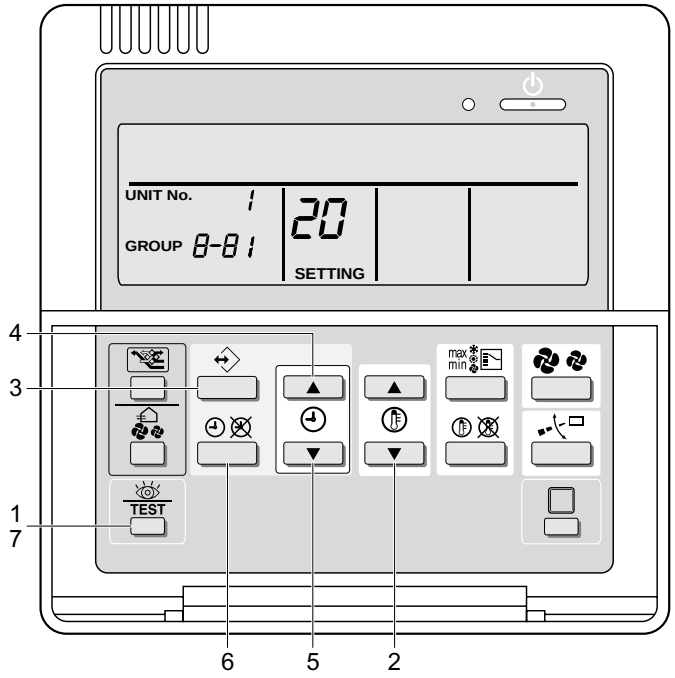
2.9 Setting the Centralized Group No.

When?

If you want to carry out centralized control with a central remote controller and a unified ON/OFF controller, you have to set the group No. for each group with the remote controller.

Wired remote controller

The illustration below shows the wired remote controller.



Setting

To set the “Centralized group No.”, proceed as follows:

Step	Action
1	Switch ON the power supply of the central remote controller, the unified ON/OFF controller and the indoor unit(s).
2	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the “Field setting mode”.
3	Press the TEMPERATURE CONTROL button until “Mode No.” “00” appears.
4	Press the INSPECTION/TEST button to inspect the group No. display.
5	Set the “Group No.” for each group by pressing the PROGRAMMING TIME button. The “Group No.” rises in the order of 1—00, 1—01, ..., 1—15, 2—00, ..., 2—15, 3—00, etc. The unified ON/OFF controller however displays only the range of group numbers selected by the switch for setting each address.
6	Press the CONFIRMATION button to enter the selected group No.
7	Press the INSPECTION/TEST button to return to normal mode.

Individually address setting

If the address must be set individually for each unit, set the “Mode No.” to “30”. For example, for power consumption counting.

Group control for FDYMP indoor units

For group control, cut the jumper indicated as “master/slave” on the PCB of the “slave” indoor units (=slave PCB). Do not cut the jumper on the PCB of the indoor unit to which the remote controller is connected (=master PCB).

Note

It is not necessary to designate an indoor unit address when using group control. Tha address is automatically set when the power is activated.

2.10 Field settings when using a spare part PCB of Sky-Air L-series outdoor unit

When

In case the outdoor PCB needs to be replaced by a spare part PCB, it is required to execute below-mentioned field settings to ensure correct operation of the unit.

Required action

In case of repair using this part, replace the part according to the following instruction:

Attention on service!

1 Please be sure to work after turning off all related circuit breakers.

2 Before starting the work, please touch the metal part of the product to discharge static electricity.

3 Please exchange PCB ass.y when it is still included in the resin case.
(If it would be removed from the resin case, it can cause a PCB failure.)

- The parts for replacement :	**1**	The PCB ass'y
- Accessories:	**1**	Capacity setting adaptor
	2	The screw for terminal board : Two kinds (M4×3 pieces, M5×6 pieces)

Please replace the printed circuit board according to the following flow chart of "The flow to setup the printed circuit board ass'y".

The flow to setup the printed circuit board ass.y

<Please check the capacity of the unit.>

↓ Please attach the capacity setting adaptor (fig. 4) to CN26/X26A.
(Refer to fig. 3 [Nr. 1])

<Please cut jumper JH>

↓ Please cut jumper JH, as shown in fig. 1 on this page. (Refer to fig. 3 [Nr. 5])
(It becomes a DAIKIN compressor setup by cutting.)

<Is the capacity of the unit 71 or 100?> → No → **<Is the capacity of the unit 125?>**

↓ Yes

Yes

In the case of 71 or 100

Please remove and reuse the two following connectors from the original printed circuit board ass'y.

- Please attach the connector for terminal protection to CN14/X14A. (Refer to fig. 3 [Nr. 2])
- Please attach a short circuit connector to CN12/X12A. (Refer to fig. 3 [Nr. 3])

↓

<Is the model R(Y)P71L7V1 or R(Y)P100L7V1?> No

↓ Yes

Please cut jumper J4, as shown in fig. 1 on this page. (Refer to fig. 3 [Nr. 6])
(It becomes a setup for 230V by cutting.)

↓

<Is it a C/O or H/P?>

<Is it a C/O or H/P?> H/P

C/O

Please cut jumper J5 as shown in fig. 1 on this page. (Refer to fig. 3 [Nr. 7])

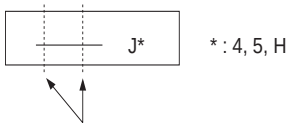
<Replacement of the printed circuit board ass'y>

(CAUTION)

Please replace the PCB ass.y when it is still included in the resin case.

Please reconnect all connectors as before according to the electric wiring diagram.

Figure 1



The cut position of a jumper line

<Test run>

Please confirm that a test run is performed and that the system can operate normally after finishing the replacement.

Figure 3: The outline drawing of the PCB assembly (including the resin case)

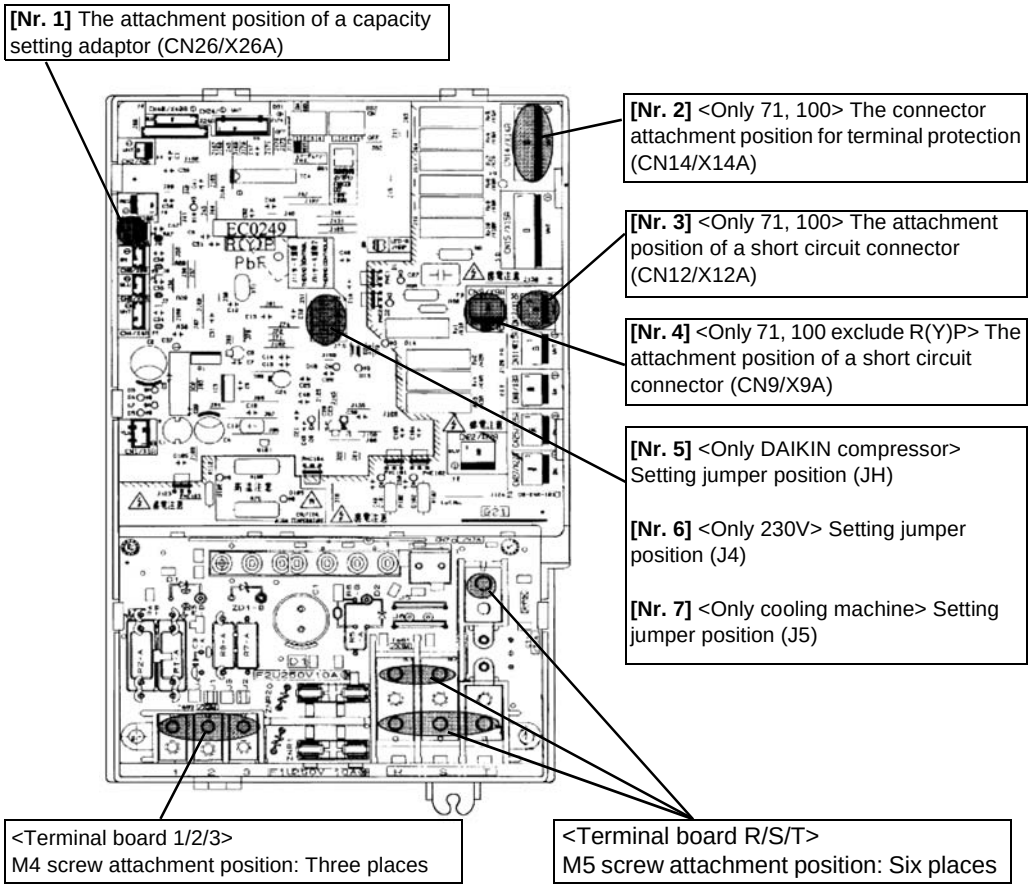
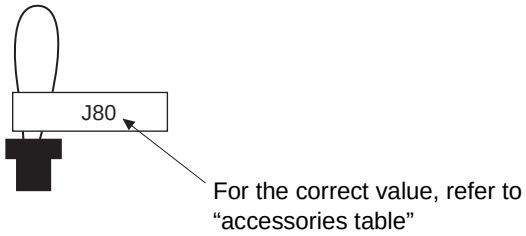


Figure 4: Capacity establish adaptor illustration



2.11 The Field Setting Levels

Introduction

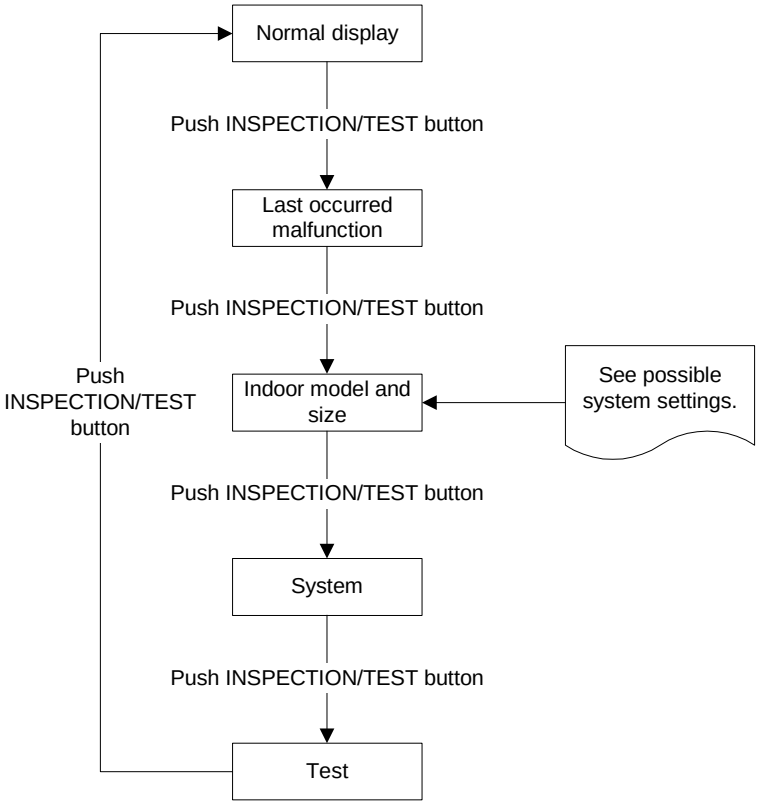
The three field setting levels are:

- ➤ Inspection level
- ➤ Monitoring level
- ➤ Maintenance mode settings.

The inspection level

The inspection level is the highest level of the three field setting levels. You can change the views in the inspection level by pressing the INSPECTION/TEST button.

The flow chart below explains the different windows of the inspection level.



Possible system settings

The table below contains the possible system settings, which are displayed on the remote controller if the TEST button is pushed twice shortly.

Size		Software	Type	
Settings	**Display**		**Settings**	**Display**
35	35	5	FHYCP	FC
45	45		FHYP	HC
60	63		FAYP	AC
71	71		FHYKP	EC
100	100		FHYBP	JC
125	125		FUYP	3C
200	200		FDYP	UC
250	250		—	

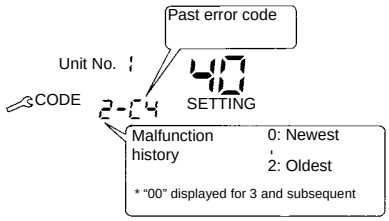
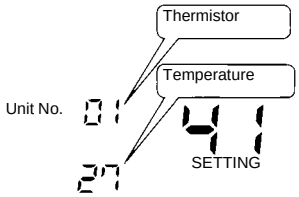
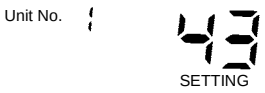
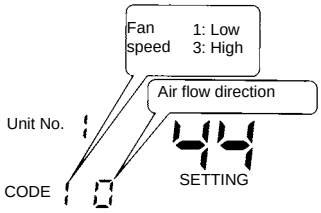
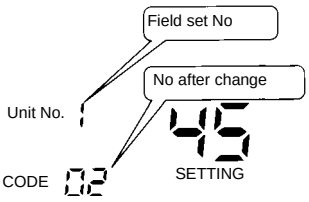
Changing the mode settings

To enter the monitoring level and to change the maintenance mode settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s to enter the field setting mode.
2	Hold down the INSPECTION/TEST button for at least 4 s to enter the maintenance mode.
3	Press the TEMPERATURE CONTROL buttons as many times as needed to select the mode No. you want.
4	Press the TIMER SELECTION button as many times as needed to select the unit No. you want.
5	Carry out the settings for modes 44 and 45. See “Maintenance Mode Settings” further in this section.
6	Press the CONFIRMATION button to confirm the settings of modes 44 and 45.
7	Press the INSPECTION/TEST button to return to the normal operating mode.

Maintenance Mode Settings

The table below describes the maintenance mode settings.

Mode No.	Function	Content and operation method	Example of the remote controller display
40	History error codes	Display malfunction history The history No. can be changed with the programming time button.	
41	Thermistor data display	Select the display thermistor with the programming time button. Thermistor: 0. Remote control thermistor 1. Suction thermistor 2. Heat exchanger thermistor.	
43	Forced fan ON	Turns the fan ON for each unit individually.	
44	Individual setting	Sets fan speed and air flow direction for each unit individually when using group control. Settings are made using the "air flow direction adjust" and "fan speed adjust" buttons. Confirmation by the confirmation button is required.	
45	Unit No. change	Changes unit No. Set the unit No. after changing with the programming time buttons. Confirmation by the confirmation button is required.	

2.12 Overview of the Field Settings: R(Y)P71-125L

Jumpers The table below contains the jumper field settings.

Jumper	Label on PCB	Function	Applicable units	See page
J1	Thermo CTR	Change thermostat OFF control indoor unit	➤ RP71-125L ➤ RYP71-125L	4–28
J3	Thermo CTR2	Change thermostat ON control indoor unit		4–28

DIP switches The table below contains the DIP switch field settings.

DIP switch	Function	Details	Applicable units	See page
DS1-1	Emergency ON/OFF	Switch emergency operation outdoor unit ON	RYP71-125L	4–26
DS1-2	Cool / Heat	Select emergency cooling / heating operation on outdoor unit		4–29
DS1-3	Increase possibility to start defrost	➤ Changes the accumulated operation time from 3 hours to 40 minutes in order to advance the defrosting operation. ➤ Increases the temperature conditions for defrost activation with 4K.		4–29
DS1-4	Mode B Avoid risk of liquid back to the compressor	At factory setting (switch = OFF), the E.V. will open at the maximum (480 pulses) for a limited time (1 or 2 minutes) before closing to 100 pulses. ➤ When changing this setting, the time of opening the E.V. at maximum opening is reduced to 30 seconds. ➤ Stops the compressor at defrost start and stop		4–29
DS2-1	Not applicable	—	RYP71-125L	4–29
DS2-2	Not applicable	—		4–29
DS2-3	Change Freeze-up conditions	Freeze-up start / stop decided by indoor unit.(Unit will restart when evaporator temperature reached 7°C for 10 minutes)	➤ RP71-125L ➤ RYP71-125L	4–30
DS2-4	Change Freeze-up conditions	Setting for low humidity applications. (Unit will restart when evaporator temperature reached 7°C for 3 minutes)		4–30

BS

The table below contains the BS field setting.

BS	Label on PCB	Function	Applicable units	Details
BS1	Pump down / forced defrost	Cooling/fan only: Pump down (see further in this section) Heating: Forced defrosting	➤ RP71-125L ➤ RYP71-125L	—

Pump down

Pump down is preferably carried out with the indoor unit set to “fan only” in order to avoid compressor restart with closed stop valves after finishing the previous pump down operation (close stop valves, turn OFF the power supply).

If accidentally, the power was switched back ON, the unit will automatically restart with closed stop valves, which may result in a possible compressor breakdown.

2.13 Jumpers

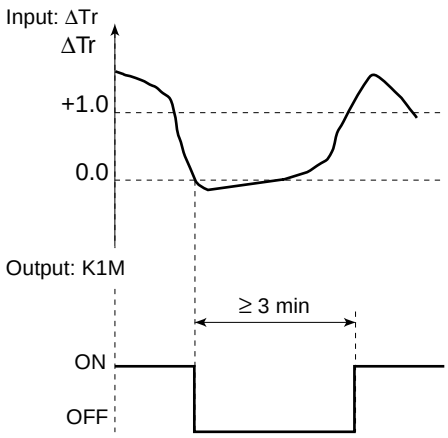
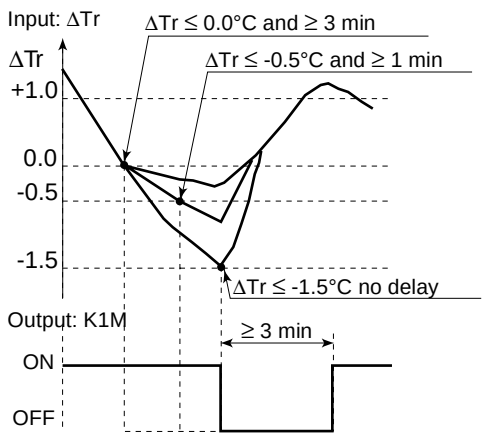
Input and output

The table below describes the input and the output of the jumpers.

Item	Description			
Input	ΔTr	Cooling	ΔTr = Tr - Ts	➤ Tr = indoor unit suction air temp. ➤ Ts = temp. set by the remote controller
		Heating	ΔTr = Ts - Tr	
Output	Magnetic switch compressor K1M			

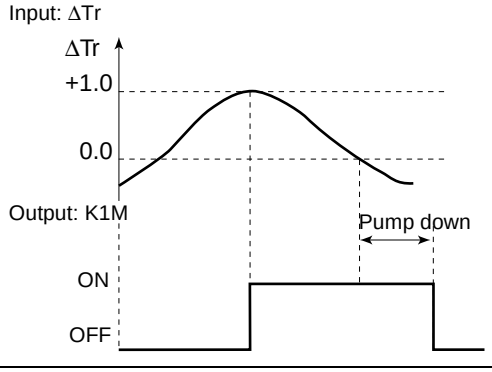
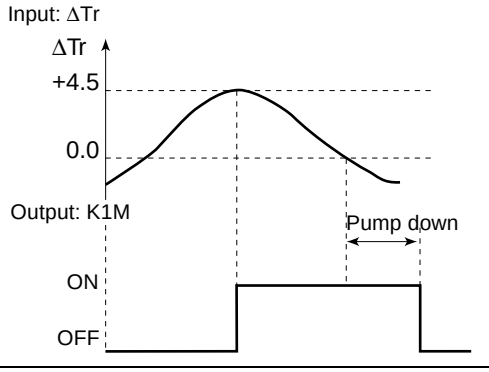
J1

The function of jumper J1 is to reduce the possibility of thermostat OFF (reduce ON/OFF cycle compr.).

Factory setting (closed state)	Field setting (open state)
Thermostat goes into OFF-state when ΔTr ≤ 0.0°C	Thermostat goes into OFF-state when ➤ -0.5°C < ΔTr ≤ 0.0°C for 3 min, or ➤ -1.5°C < ΔTr ≤ -0.5°C for 1 min, or ➤ ΔTr ≤ -1.5°C
	

J3

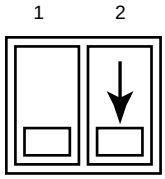
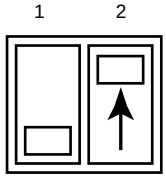
The function of jumper J3 is to increase the differential for thermo ON.

Factory setting (closed state)	Field setting (open state)
Thermostat goes into ON-state when ΔTr ≥ 1.0°C	Thermostat goes into ON-state when ΔTr ≥ 4.5°C
	

2.14 DIP switch DS1

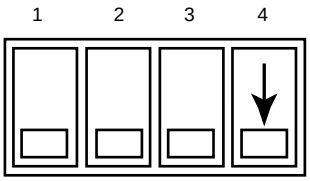
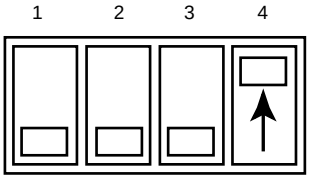
DS1-3: Defrost starting condition

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 	For temperature settings at defrosting, see page 2–40. Accumulated operation time for defrost activation = 3 h.
Field setting	ON 	➤ Increases the temp. conditions for defrost activation with 4°C. ➤ Changes the accumulated operation time from 3 h to 40 min in order to advance the defrosting operation.

DS1-4: Mode B

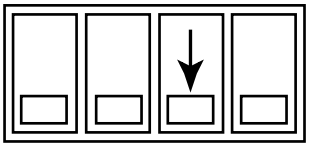
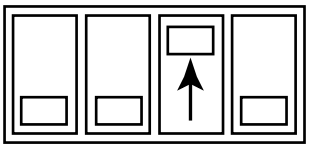
The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 	At the start-up of the defrost operation, the E.V. opens at the max. (480 pulses) for a limited time (1 or 2 min), before closing to 100 pulses.
Field setting	ON 	Changes the following in order to avoid liquid back to the compressor: ➤ Changes the limited time of E.V. opening at max. (480 pulses) from 1 or 2 min to 30 s. ➤ Stops the compressor at defrost start and stop.

2.15 DIP switch DS2

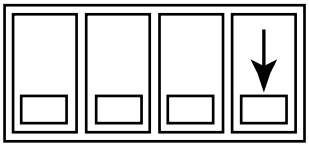
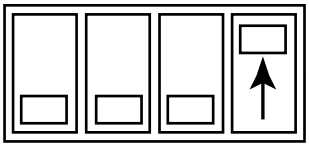
DS2-3: Freeze 1

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	Enables the “intelligent” control function. See page 2–29.
Field setting	ON 1 2 3 4 	Disables the “intelligent” control function. Freeze-up start/stop decided by indoor unit. (Unit will restart when evaporator temperature reached 70°C for 10 minutes.) To be used in combination with EKRPER only!

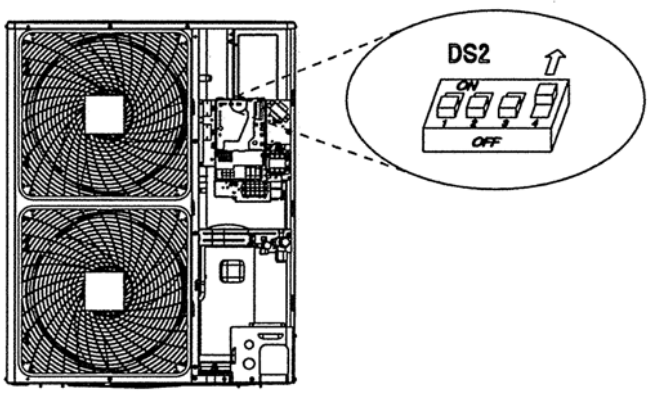
DS2-4: Freeze 2

The table below describes the DIP switch.

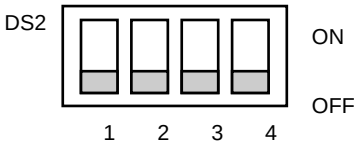
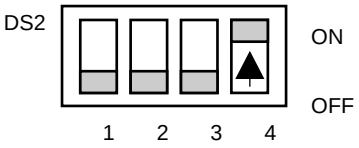
Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	Normal operation.
Field setting	ON 1 2 3 4 	Countermeasure for low humidity applications.

DS2-4: Method and illustration

The capacity will be increased when the dip switch DS2-4, mounted on the outdoor PCB, is set to ON .



Detail dip switch setting:

OFF (Factory setting)	ON
	

DS2-4: Capacity result at low temperature:

The capacity increases when outdoor temperature drops below 21°C as indicated on table below:

	Dip switch OFF (Factory setting)	Dip switch ON
Capacity low temperature	100%*	150~200%

*This is a relative comparisson to indicate an increase of 50 to 100% capacity with the dipswitch ON.

Note

See page 2–29 “Freeze up conditions” for detailed information.

DS2-4: Caution

- ➤ Finally the capacity result will depend on the total condition of the installation site. This is the responsibility of the customer.
- ➤ There is additional limitation for the relative humidity when operating this switch. Finally it will depend on the total condition of the installation site and is responsibility of the customer.
- ➤ Evaluation is necessary for each installation site by a proffesional responsible installer.
- ➤ Only use the switch for capacity increase in the area indicated on the graph of page 4.
- ➤ Do not set the switch in combination with the option EKRPER, this is only for use of Daikin indoor units.

Reason for limitation:

When operating with switch ON, there will be a change of freeze protection control see table on next page. By this there will be some risk of:

- ➤ Ice building up at indoor heat exchanger.
- ➤ Water blown off from the unit into the room

3 Test Run and Operation Data

Introduction

This chapter contains the following information:

- General operation data
- Operation ranges.

Overview

This chapter contains the following topics:

Topic	See page
3.1–General Operation Data	4–34
3.2–RP71L7V1, RP71L7W1, RP100L7V1, RP100L7W1 and RP125L7W1	4–36
3.3–RYP71L7V1, RYP71L7W1, RYP100L7V1, RYP100L7W1 and RYP125L7W1	4–37

3.1 General Operation Data

During cooling mode and dry keep

The operating conditions must be as follows:

Items	Operating modes	If the operation is out this range...
Outdoor temp.	➤ c/o: -15 to +46°CDB ➤ h/p: -5 to +46°CDB	➤ A safety device may stop the operation. ➤ Condensation may occur on the indoor unit and start dripping.
Indoor temp.	+14 to +28°CWB	
Indoor humidity	80%	

The operation values are guidelines in the operation range:

- ➤ LP: 3.0~6.5 barg (low pressure)
- ➤ HP: 12.0~28.0 barg (high pressure)
- ➤ Td: 60~95°C (discharge pipe temperature compressor)
- ➤ Ts: -2~15°C (suction pipe temperature compressor)
- ➤ ΔTi: 8~16°C (indoor temperature difference |air return – air outlet|).

During heating mode

The operating conditions must be as follows:

Items	Operating modes	If the operation is out this range...
Outdoor temp.	-10 to +15.5°CWB	A safety device may stop the operation.
Indoor temp.	+15 to +27°CDB	

The operation values are guidelines in the operation range:

- ➤ LP: 1.8~6.4 barg (low pressure)
- ➤ HP: 13.0~28.0 barg (high pressure)
- ➤ Td: 55~95°C (discharge pipe temperature compressor)
- ➤ Ts: -15~10°C (suction pipe temperature compressor)
- ➤ ΔTi: 12~32°C (indoor temperature difference |air return – air outlet|).

Correlation of Air- Conditioner's Operation Status and Pressure / Running Current

What happens in comparison to normal values is summarized in the table below.
(Measured from 15 ~ 20 minutes or more after operation starts.)

When Cooling

Air-Conditioner Status	Low Pressure	High Pressure	Running Current
Air Filter Fouling	Lower	Lower	Lower
Short Circuit of Indoor Unit Inlet/ Outlet Air	Lower	Lower	Lower
Outdoor Unit Fin Fouling	Higher	Higher	Higher
Short Circuit of Outdoor Unit Inlet/Outlet Air	Higher	Higher	Higher
Air Mixed in Refrigerant	Higher	Higher	Higher
Water Mixed in Refrigerant	*1 Lower	Lower	Lower
Dirt Mixed in Refrigerant	*2 Lower	Lower	Lower
Lack of Refrigerant (Gas)	Lower	Lower	Lower
Unsatisfactory Compression	*3 Higher	Lower	Lower

When Heating

Air-Conditioner Status	Low Pressure	High Pressure	Running Current
Air Filter Fouling	Higher	Higher	Higher
Short Circuit of Indoor Unit Inlet/ Outlet Air	Higher	Higher	Higher
Outdoor Unit Fin Fouling	Lower	Lower	Lower
Short Circuit of Outdoor Unit Inlet/Outlet Air	Lower	Lower	Lower
Air Mixed in Refrigerant	Higher	Higher	Higher
Water Mixed in Refrigerant	*1 Lower	Lower	Lower
Dirt Mixed in Refrigerant	*2 Lower	Lower	Lower
Lack of Refrigerant (Gas)	Lower	Lower	Lower
Unsatisfactory Compression	*3 Higher	Lower	Lower

Note

*1. Water in the refrigerant freezes inside the capillary tube or expansion valve, and is basically the same phenomenon as pump down.

*2. Dirt in the refrigerant clogs filters inside the piping, and is basically the same phenomenon as pump down.

*3. Pressure differential between high and low pressure becomes slight.

3.2 RP71L7V1, RP71L7W1, RP100L7V1, RP100L7W1 and RP125L7W1

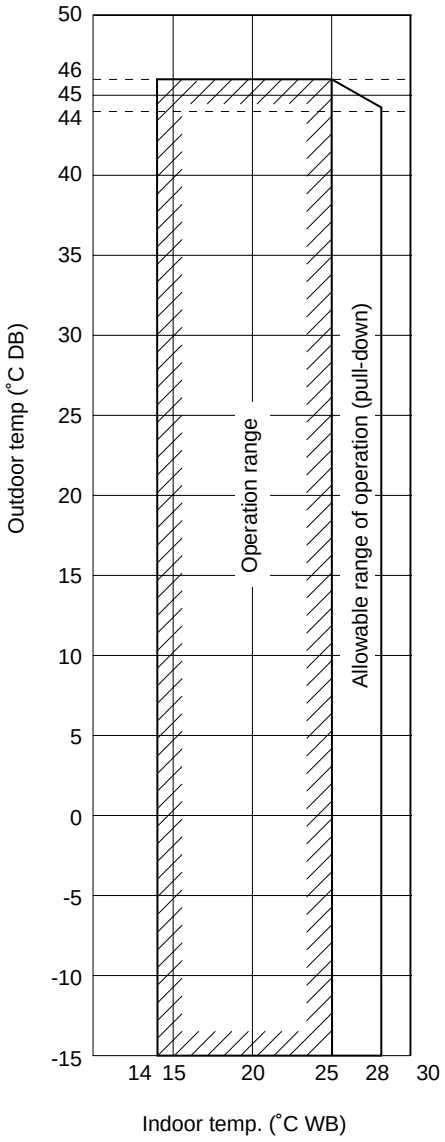
Conditions

The illustration in this section is based on the following conditions:

- ➤ Equivalent piping length: 7.5 m
- ➤ Level difference: 0 m
- ➤ Air flow rate: High.

Operation range

The illustration below shows the operation range.



3.3 RYP71L7V1, RYP71L7W1, RYP100L7V1, RYP100L7W1 and RYP125L7W1

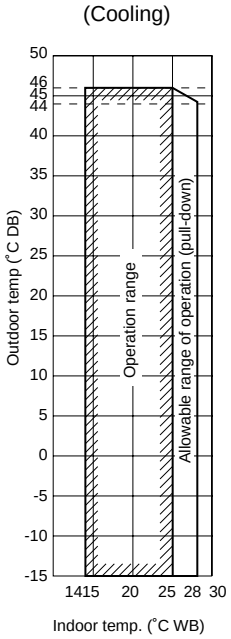
Conditions

The illustrations in this section are based on the following conditions:

- ➤ Equivalent piping length: 7.5 m
- ➤ Level difference: 0 m
- ➤ Air flow rate: High.

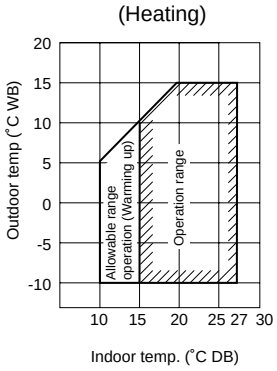
Operation range: Cooling

The illustration below shows the operation range.



Operation range: Heating

The illustration below shows the operation range.



Part 5
Disassembly and Maintenance

What is in this part? This part contains the following chapters:

Chapter	See page
1–Disassembly and Maintenance: Outdoor Units	5–3
2–Disassembly and Maintenance: Indoor Units	5–17

1 Disassembly and Maintenance: Outdoor Units

1.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the outdoor units:

- Exploded views
- Components.

Overview

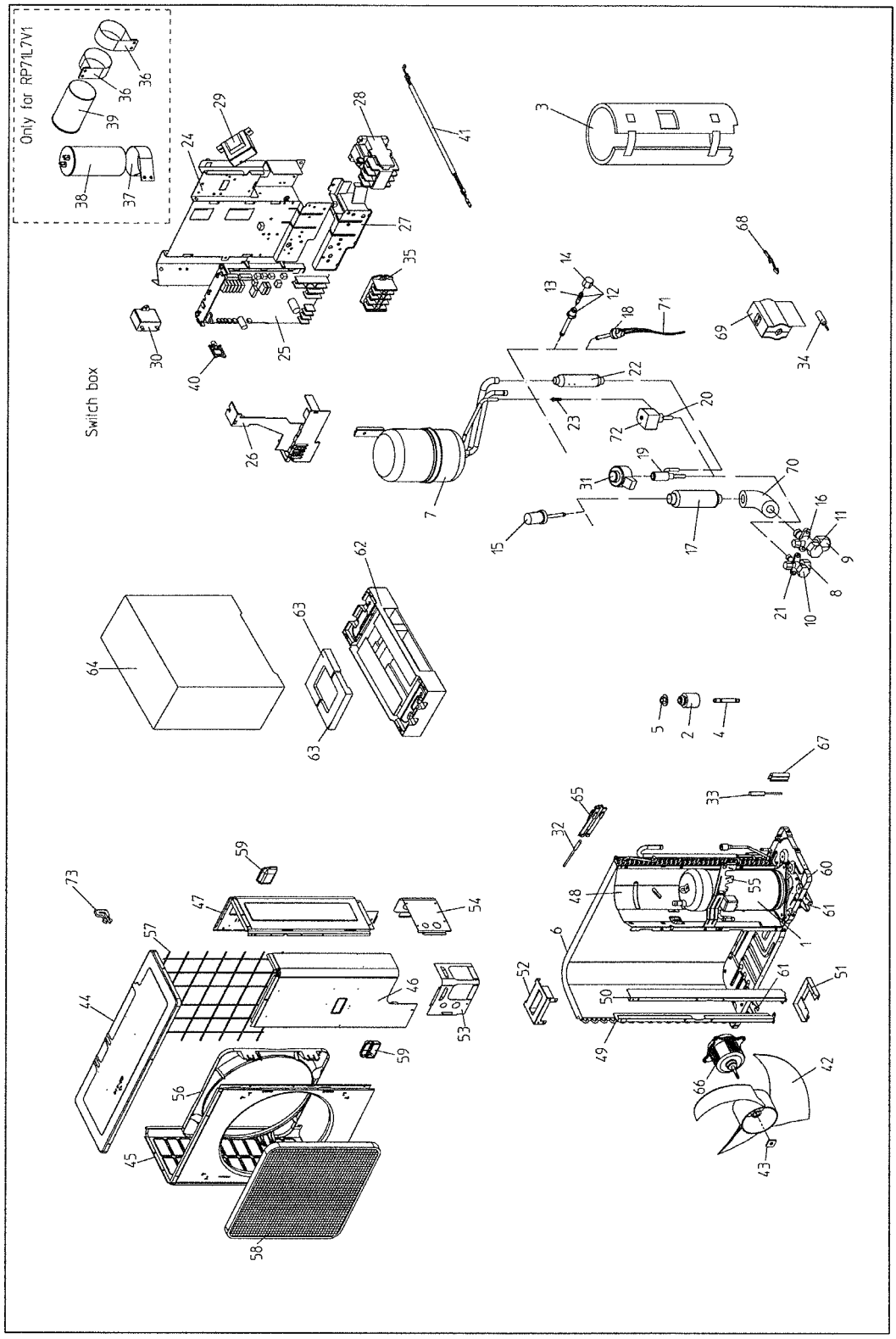
This chapter contains the following topics:

Topic	See page
1.2–RP71L7V1, RP71L7W1	5–4
1.3–RYP71L7V1 and RYP71L7W1	5–6
1.4–RP100L7V1, RP100L7W1	5–8
1.6–RYP100L7V1, RYP100L7W1	5–12
1.7–RYP125L7W1	5–14

1.2 RP71L7V1, RP71L7W1

Exploded view

The illustration below shows the exploded view.



Components

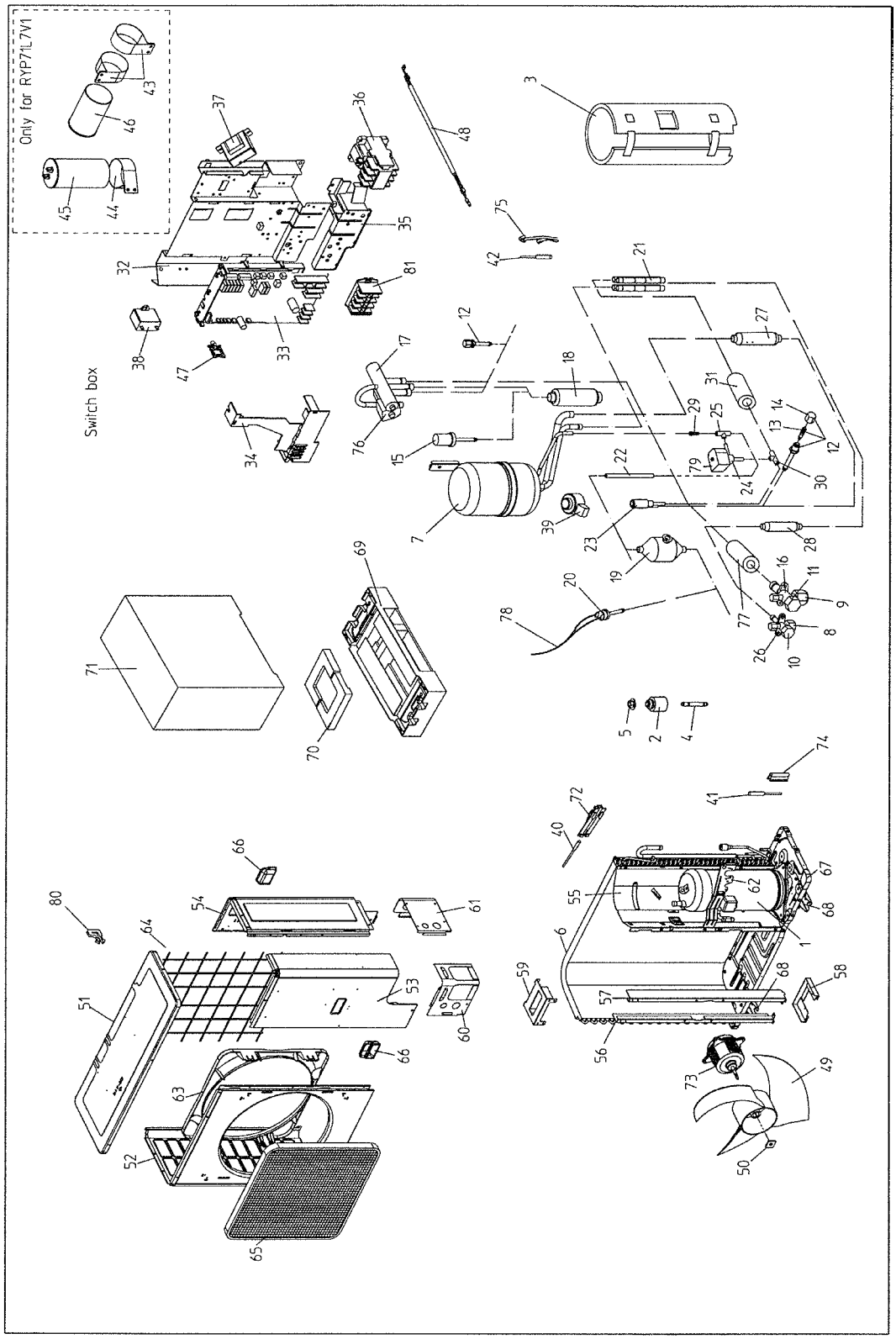
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7029# / #7039# Compressor	35	Terminal strip
2	Rubber cushion pre-assy	36	Capacitor fixing band
3	Sound insulation (for comp/1)	37	Capacitor fixing band
4	Bolt for compressor	38	Comp. Motor capacitor
5	Nut with washer	39	Comp. Motor capacitor
6	Plate finned coil heat exch as	40	Wire clip
7	Liquid receiver assy	41	Compressor cable
8	Flare nut 3/8	42	Fan propellor
9	Flare nut 5/8”	43	Washer
10	Stop valve cap	44	Top plate assy
11	Valve cap	45	Front plate assy
12	Check valve	46	Front plate (2) assy
13	Valve core	47	Side plate assy
14	Shraeder round dustcap	48	Part.Plate assy
15	Low pressure switch	49	Fan motor stand left
16	Gas stop valve assy	50	Fan motor stand right
17	Filter	51	Fan motor stand
18	High pressure switch	52	Fan motor stand (up)
19	Motor operated valve body	53	Cover
20	Solenoid valve body	54	Piping cover (rear)
21	Liquid stop valve assy	55	Stop valve mounting plate
22	FI233 Filter	56	Bell mouth assy
23	Strainer	57	Suction grill
24	Ele. compo.mounting assy	58	Air discharge grill
25	PCB Assy	59	Handle
26	Resin cover assy	60	Bottom frame assy
27	El. compo. box lower cover	61	Installation leg painted
28	Magnetic switch	62	Bottom tray assy
29	Transformer	63	Cushion top
30	Fan motor capacitor	64	Packing case p/m
31	Motor operated valve coil	65	Thermistor fixing plate
32	Thermistor	66	Single phase ac fan motor
33	Thermistor	67	Thermistor mounting spring
34	Thermistor	68	Thermistor mounting spring
69	Insulation Material	72	Solenoid valve coil
70	Insulation tube (gas)	73	Stopper
71	Hps cable		

1.3 RYP71L7V1 and RYP71L7W1

Exploded view

The illustration below shows the exploded view.



Components

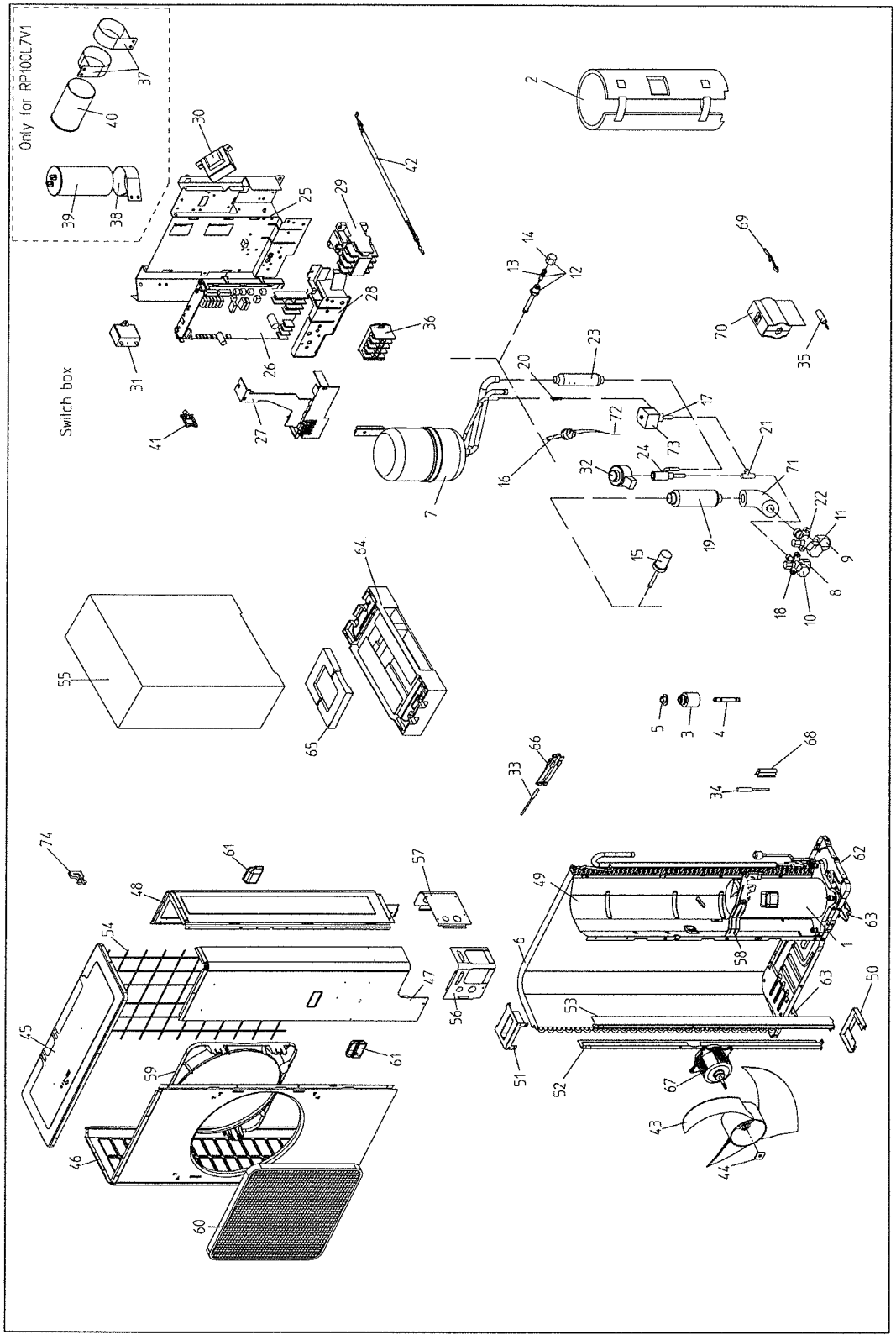
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7028# / #7039# Compressor	35	El. compo.box lower cover
2	Rubber cushion pre-assy	36	Magnetic switch
3	Sound insulation (for comp/1)	37	Transformer
4	Bolt for compressor	38	Fan motor capacitor
5	Nut with washer	39	Motor operated valve coil
6	Plate finned coil heat exch as	40	Thermistor
7	Liquid receiver assy	41	Thermistor
8	Flare nut 3/8	42	Thermistor
9	Flare nut 5/8”	43	Capacitor fixing band
10	Stop valve cap	44	Capacitor fixing band
11	Valve cap	45	Comp. Motor capacitor
12	Check valve	46	Comp. Motor capacitor
13	Valve core	47	Wire clip
14	Shraeder round dustcap	48	Compressor cable
15	Low pressure switch	49	Fan propellor
16	Gas stop valve assy	50	Washer
17	Four way valve body	51	Top plate assy
18	Filter	52	Front plate assy
19	Muffler	53	Front plate (2) assy
20	High pressure switch	54	Side plate assy
21	Check valve	55	Part.Plate assy
22	Check valve	56	Fan motor stand left
23	Motor operated valve body	57	Fan motor stand right
24	Solenoid valve body	58	Fan motor stand
25	T-joint TSS2-2-2	59	Fan motor stand (up)
26	Liquid stop valve assy	60	Cover
27	FI233 Filter	61	Piping cover (rear)
28	FI233 Filter	62	Stop valve mounting plate
29	Strainer	63	Bell mouth assy
30	T-joint	64	Suction grill
31	Insulation tube	65	Air discharge grill
32	Ele. compo.mounting assy	66	Handle
33	PCB Assy	67	Bottom frame assy
34	Resin cover assy	68	Installation leg painted
69	Bottom tray assy	75	Thermistor mounting spring
70	Cushion top	76	Coil of 4-way valve
71	Packing case p/m	77	Insulation tube (gas)
72	Thermistor fixing plate	78	Hps cable
73	Single phase ac fan motor	79	Solenoid valve coil
74	Thermistor mounting spring	80	Stopper

1.4 RP100L7V1, RP100L7W1

Exploded view

The illustration below shows the exploded view.



Components

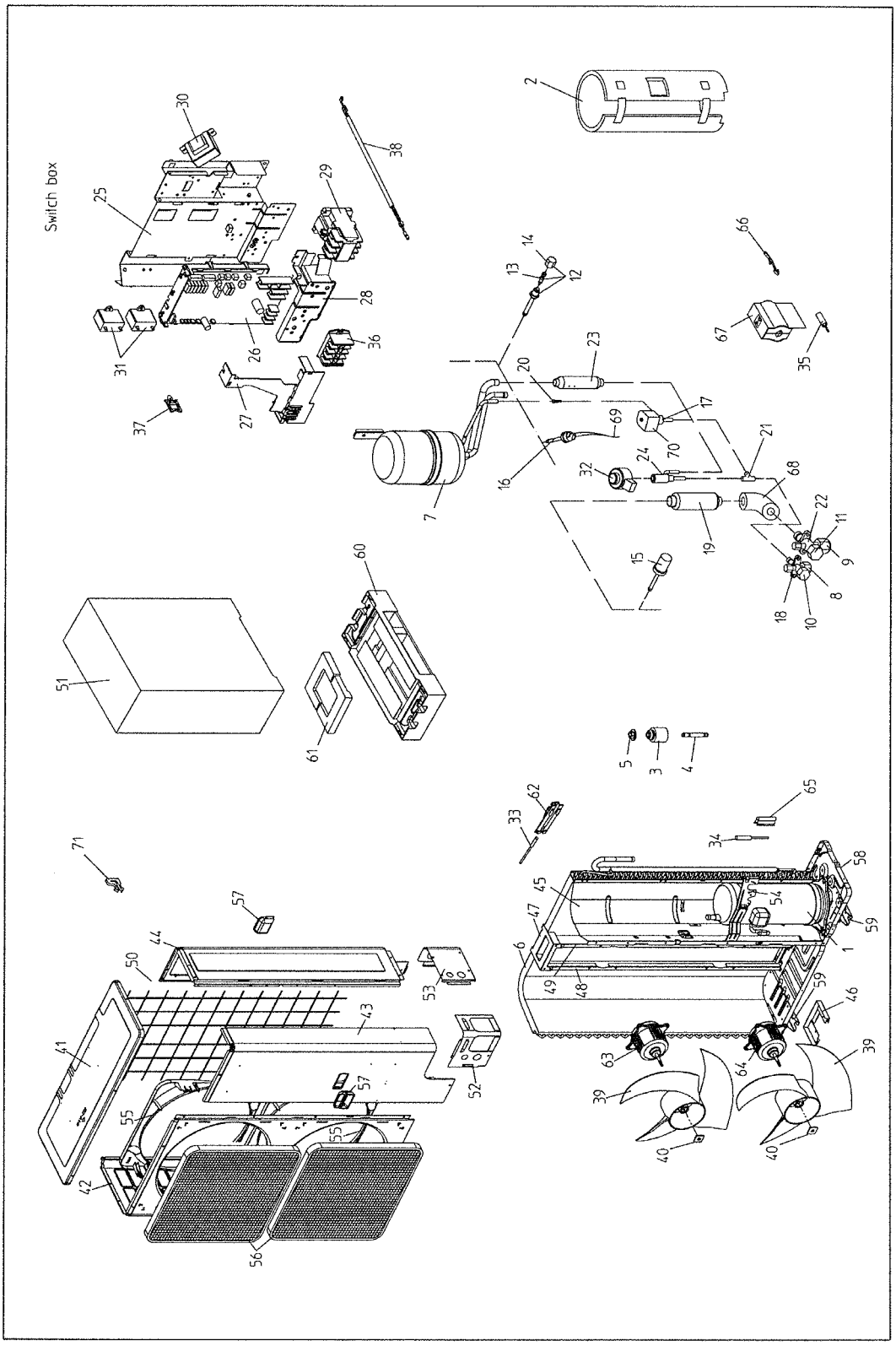
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7027# / #7038# Compressor	35	Thermistor
2	Sound insulation (for comp/1)	36	Terminal strip
3	Rubber cushion pre-assy	37	Capacitor fixing band
4	Bolt for compressor	38	Capacitor fixing band
5	Nut with washer	39	Comp. Motor capacitor
6	Plate finned coil heat exch as	40	Comp. Motor capacitor
7	Liquid receiver assy	41	Wire clip
8	Flare nut 3/8	42	Compressor cable
9	Flare nut FNS-6	43	Fan propellor
10	Valve cap	44	Washer
11	Stop valve cap	45	Top plate assy
12	Check valve	46	Front plate assy
13	Valve core	47	Front plate (2) assy
14	Shraeder round dustcap	48	Side plate assy
15	Low pressure switch	49	Part.Plate assy
16	High pressure switch	50	Fan motor stand
17	Solenoid valve body	51	Fan motor stand (up)
18	Liquid stop valve assy	52	Fan motor stand left
19	FI233 Filter	53	Fan motor stand right
20	Strainer	54	Suction grill
21	T-joint	55	Packing case p/m
22	Gas stop valve assy	56	Cover
23	Filter	57	Piping cover (rear)
24	Motor operated valve body	58	Stop valve mounting plate
25	Ele. compo. mounting assy	59	Bell mouth assy
26	PCB assy	60	Air discharge grill
27	Resin cover assy	61	Handle
28	El. compo. box lower cover	62	Bottom frame assy
29	Magnetic switch	63	Installation leg painted
30	Transformer	64	Bottom tray assy
31	Fan motor capacitor	65	Cushion top
32	Motor operated valve coil	66	Thermistor fixing plate
33	Thermistor	67	Single phase ac fan motor
34	Thermistor	68	Thermistor mounting spring
69	Thermistor mounting spring	72	Hps cable
70	Insulation material	73	Solenoid valve coil
71	Insulation tube (gas)	74	Stopper

1.5 RP125L7W1

Exploded view

The illustration below shows the exploded view.



Components

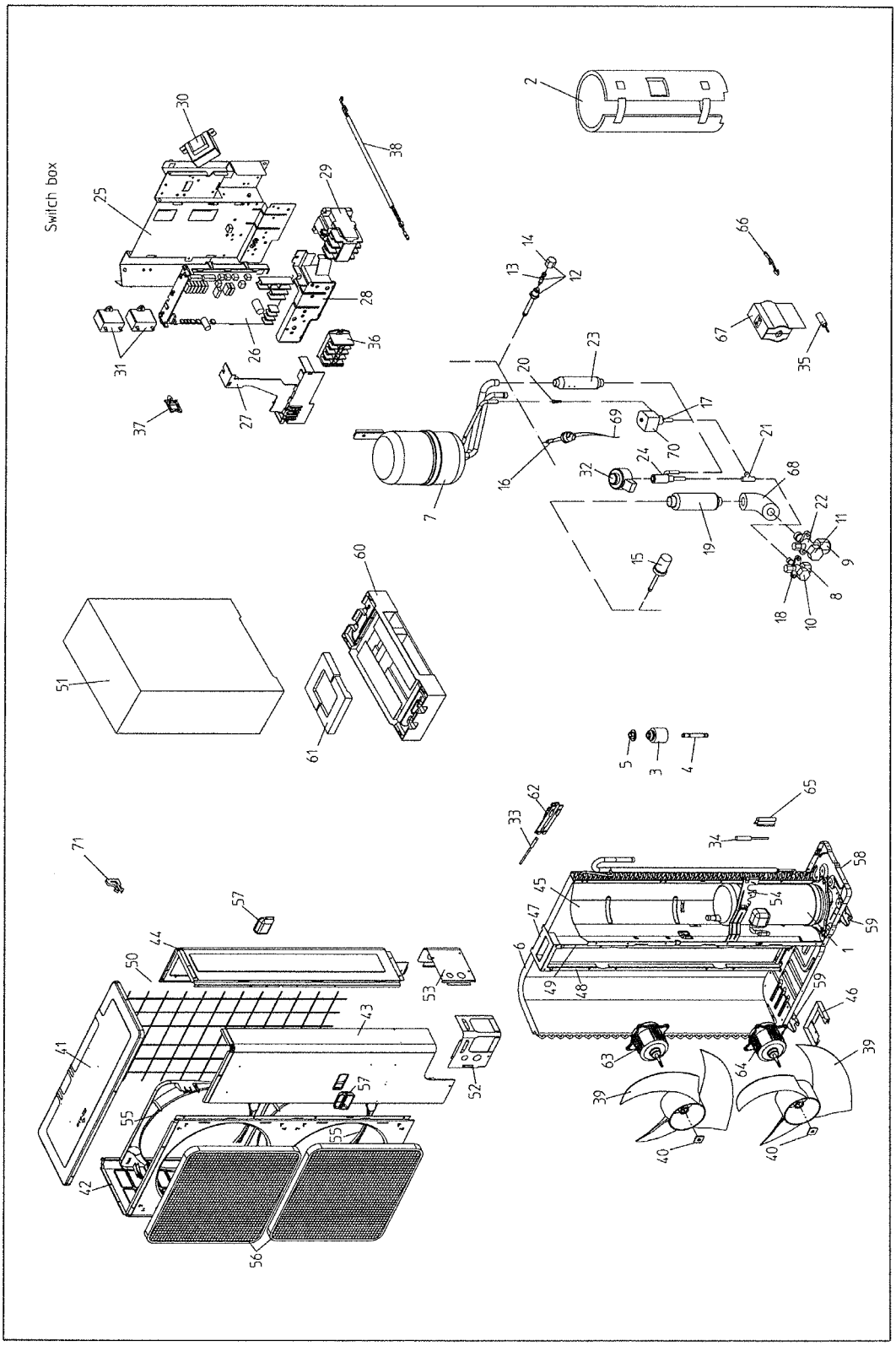
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7026# Compressor	35	Thermistor
2	Sound insulation (for comp/1)	36	Terminal strip
3	Rubber cushion pre-assy	37	Wire clip
4	Bolt for compressor	38	Compressor cable
5	Nut with washer	39	Fan propellor
6	Plate finned coil heat exch as	40	Washer
7	Liquid receiver assy	41	Top plate assy
8	Flare nut 3/8	42	Front plate assy
9	Flare nut FNS-6	43	Front plate (2) assy
10	Valve cap	44	Side plate assy
11	Stop valve cap	45	Part.Plate assy
12	Check valve	46	Fan motor stand
13	Valve core	47	Fan motor stand (up)
14	Shraeder round dustcap	48	Fan motor stand left
15	Low pressure switch	49	Fan motor stand right
16	High pressure switch	50	Suction grill
17	Solenoid valve body	51	Packing case p/m
18	Liquid stop valve assy	52	Cover
19	FI233 Filter	53	Piping cover (rear)
20	Strainer	54	Stop valve mounting plate
21	T-joint	55	Bell mouth assy
22	Gas stop valve assy	56	Air discharge grill
23	Filter	57	Handle
24	Motor operated valve body	58	Bottom frame assy
25	Ele. compo. mounting assy	59	Installation leg painted
26	PCB assy	60	Bottom tray assy
27	Resin cover assy	61	Cushion top
28	El. compo. box lower cover	62	Thermistor fixing plate
29	Magnetic switch	63	Single phase ac fan motor
30	Transformer	64	Single phase ac fan motor
31	Fan motor capacitor	65	Thermistor mounting spring
32	Motor operated valve coil	66	Thermistor mounting spring
33	Thermistor	67	Insulation material
34	Thermistor	68	Insulation tube (gas)
69	Hps cable	71	Stopper
70	Solenoid valve coil		

1.6 RYP100L7V1, RYP100L7W1

Exploded view

The illustration below shows the exploded view.



Components

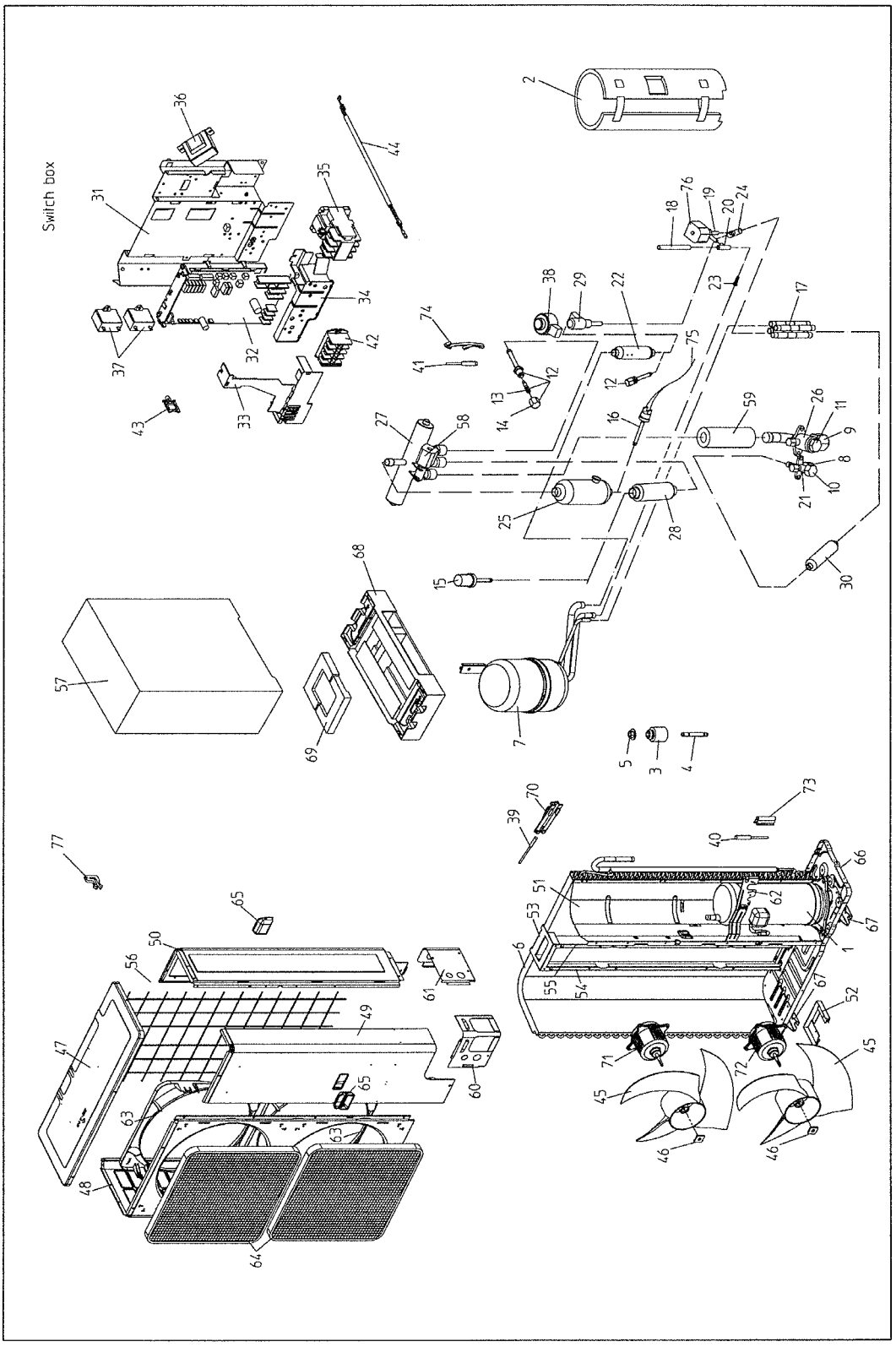
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7027# / #7038# Compressor	35	Magnetic switch
2	Sound insulation (for comp/1)	36	Transformer
3	Rubber cushion pre-assy	37	Fan motor capacitor
4	Bolt for compressor	38	Motor operated valve coil
5	Nut with washer	39	Thermistor
6	Plate finned coil heat exch as	40	Thermistor
7	Liquid receiver assy	41	Thermistor
8	Flare nut 3/8	42	Capacitor fixing band
9	Flare nut FNS-6	43	Capacitor fixing band
10	Valve cap	44	Com. motor capacitor
11	Stop valve cap	45	Com. motor capacitor
12	Check valve	46	Wire clip
13	Valve core	47	Compressor cable
14	Shraeder round dustcap	48	Fan propellor
15	Low pressure switch	49	Washer
16	High pressure switch	50	Top plate assy
17	Check valve	51	Front plate assy
18	Check valve	52	Front plate (2) assy
19	Solenoid valve body	53	Side plate assy
20	T-joint TSS2-2-2	54	Part.Plate assy
21	Liquid stop valve assy	55	Fan motor stand
22	FI233 Filter	56	Fan motor stand (up)
23	Strainer	57	Fan motor stand left
24	T-joint	58	Fan motor stand right
25	Muffler	59	Suction grill
26	Gas stop valve assy	60	Packing case p/m
27	4-way valve	61	Coil of 4-way valve
28	Filter	62	Thermal insulation tube
29	Motor operated valve body	63	Cover
30	Filter	64	Piping cover (rear)
31	Ele. compo. box lower cover	65	Stop valve mounting plate
32	PCB assy	66	Bell mouth assy
33	PCB assy	67	Air discharge grill
34	El. compo. box lower cover	68	Handle
69	Bottom frame assy	75	Thermistor mounting spring
70	Installation leg painted	76	Thermistor mounting spring
71	Bottom tray assy	77	HPS cable
72	Cushion top	78	Solenoid valve coil
73	Thermistor fixing plate	79	Stopper
74	Single phase ac fan motor	80	Terminal strip

1.7 RYP125L7W1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
1	#7026# Compressor	35	Magnetic switch
2	Sound insulation (for comp/1)	36	Transformer
3	Rubber cushion pre-assy	37	Fan motor capacitor
4	Bolt for compressor	38	Motor operated valve coil
5	Nut with washer	39	Thermistor
6	Plate finned coil heat exch as	40	Thermistor
7	Liquid receiver assy	41	Thermistor
8	Flare nut 3/8	42	Terminal strip
9	Flare nut FNS-6	43	Wire clip
10	Valve cap	44	Compressor cable
11	Stop valve cap	45	Fan propellor
12	Check valve	46	Washer
13	Valve core	47	Top plate assy
14	Shraeder round dustcap	48	Front plate assy
15	Low pressure switch	49	Front plate (2) assy
16	High pressure switch	50	Side plate assy
17	Check valve	51	Part.Plate assy
18	Check valve	52	Fan motor stand
19	Solenoid valve body	53	Fan motor stand (up)
20	T-joint TSS2-2-2	54	Fan motor stand left
21	Liquid stop valve assy	55	Fan motor stand right
22	FI233 Filter	56	Suction grill
23	Strainer	57	Packing case p/m
24	T-joint	58	Coil of 4-way valve
25	Muffler	59	Thermal insulation tube
26	Gas stop valve assy	60	Cover
27	4-way reversing valve body	61	Piping cover (rear)
28	Filter	62	Stop valve mounting plate
29	Motor operated valve body	63	Bell mouth assy
30	Filter	64	Air discharge grill
31	Ele. compo. mounting assy	65	Handle
32	PCB assy	66	Bottom frame assy
33	Resin cover assy	67	Installation leg painted
34	El. compo. box lower cover	68	Bottom tray assy
69	Cushion top	74	Thermistor mounting spring
70	Thermistor fixing plate	75	HPS cable
71	Single phase ac fan motor	76	Solenoid valve coil
72	Single phase ac fan motor	77	Stopper
73	Thermistor mounting spring		

2 Disassembly and Maintenance: Indoor Units

2.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the indoor units:

- ➤ Exploded views
- ➤ Components.
- ➤ Disassembly procedures

Overview

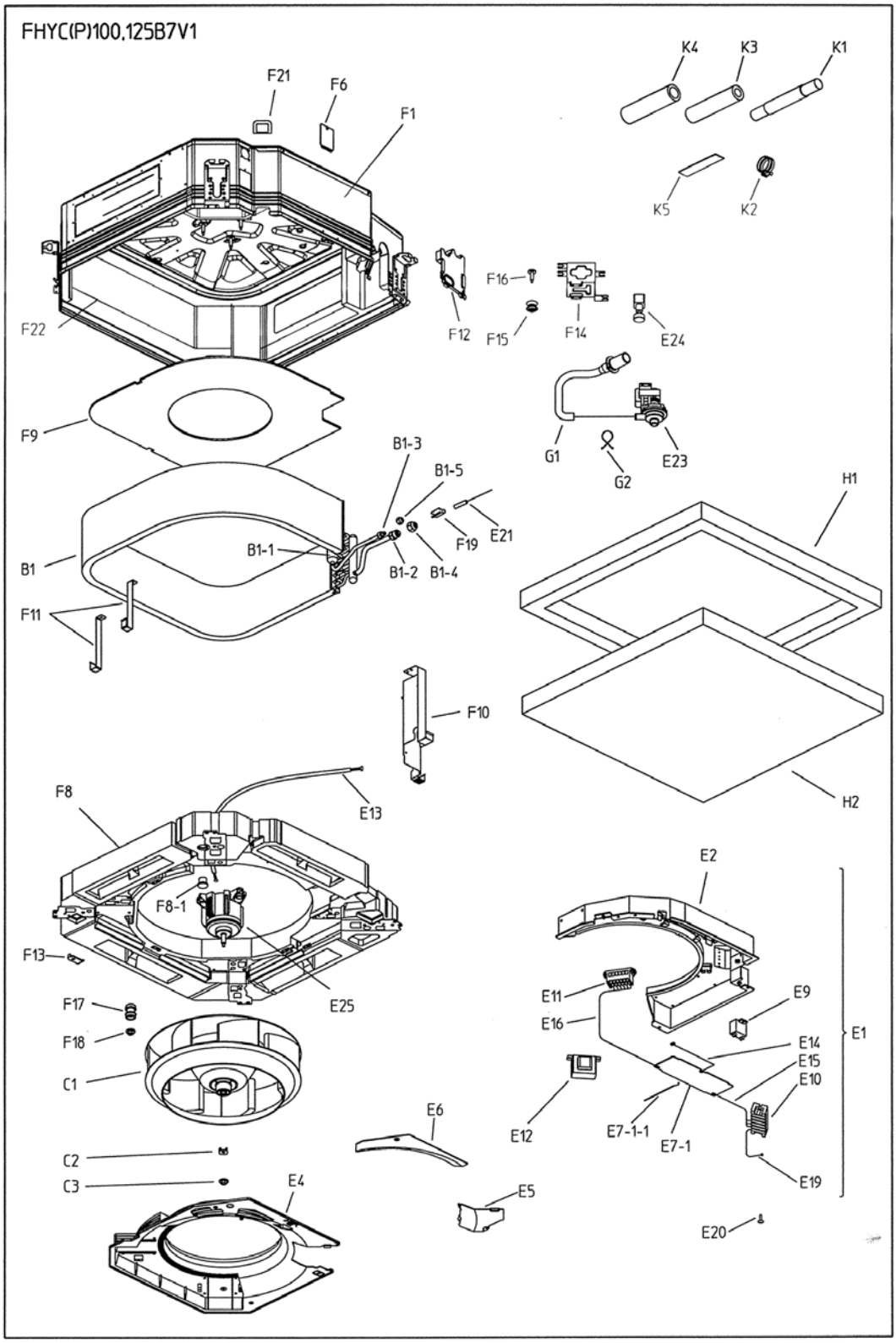
This chapter contains the following topics:

Topic	See page
2.2–FHYCP35B7V1, FHYCP45B7V1, FHYCP60B7V1 and FHYCP71B7V1	5–18
2.3–FHYBP35B7V1 and FHYBP45B7V1	5–20
2.4–FHYBP60B7V1 and FHYBP71B7V1	5–22
2.5–FHYBP100B7V1 and FHYBP125B7V1	5–24
2.6–FDYP125B7V1	5–26
2.7–FHYP35BV1 and FHYP45BV1	5–28
2.8–FHYP60BV1 and FHYP71BV1	5–30
2.8–FHYP60BV1 and FHYP71BV1	5–30
2.9–FHYKP35BV1, FHYKP45BV1, FHYKP60BV1 and FHYKP71BV1	5–32
2.10–FHYP100BV1 and FHYP125BV1	5–34
2.11–FUYP71~125BV17	5–47
2.12–FAYP71LV1	5–63

2.2 FHYCP35B7V1, FHYCP45B7V1, FHYCP60B7V1 and FHYCP71B7V1

Exploded view

The illustration below shows the exploded view.



Components

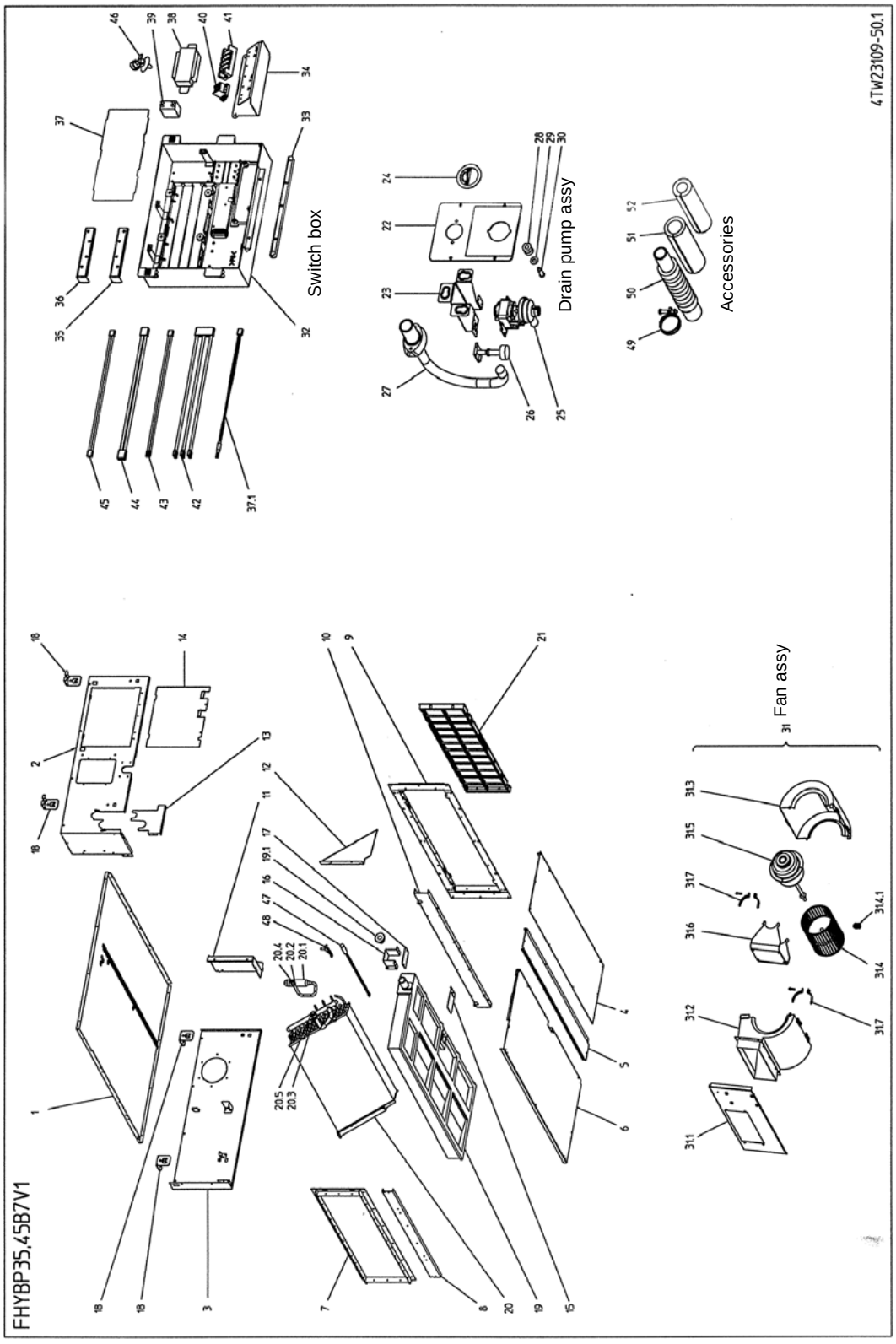
The table below contains the components of the exploded view.

No.	Component	No.	Component
B1	Heat exchanger assy	E24	Float switch
B1.1	Distributor with filter	E25	Fan motor
B1.2	Single union joint	F1	Casing assy
B1.3	Single union joint	F6	Inspection cover assy
B1.4	Flare nut	F8	Drain pan assy
B1.5	Flare nut	F8.1	Drain plug
C1	Fan rotor (turbo)	F9	Sound absorbing material
C2	Lock washer	F10	Heat exchanger blind plate assy
C3	Nut with washer	F11	Heat exchanger mounting plate
E1	Switch box assy	F12	Hold plate assy
E2	Switch box body	F13	Panel mounting plate
E4	Bell mouth	F14	Drain pump mounting plate
E5	Switch box cover assy 1	F15	Vibration isolator
E6	Switch box cover 2	F16	Hexagon mounting bolt
E7.1	PCB assy	F17	Vibration isolator
E7.1.1	Air thermistor	F18	Nut with washer
E9	Capacitor	F19	Feeler bulb clamp
E10	Terminal	F21	Rubber bush
E11	Terminal block	F22	Inner heat insulator
E12	Power supply transformer	G1	Drain hose
E13	Wire harness	G2	Hose band
E14	Wire harness	H1	Top tray assy
E15	Wire harness	H2	Bottom tray assy
E16	Wire harness	K1	Drain hose assy
E19	Grounding wire	K2	Hose band
E20	Grounding screw	K3	Insulation for joint (liquid)
E21	Thermistor (liquid)	K4	Insulation for joint (gas)
E23	Drain pump	K5	Sealing material

2.3 FHYBP35B7V1 and FHYBP45B7V1

Exploded view

The illustration below shows the exploded view.



Components

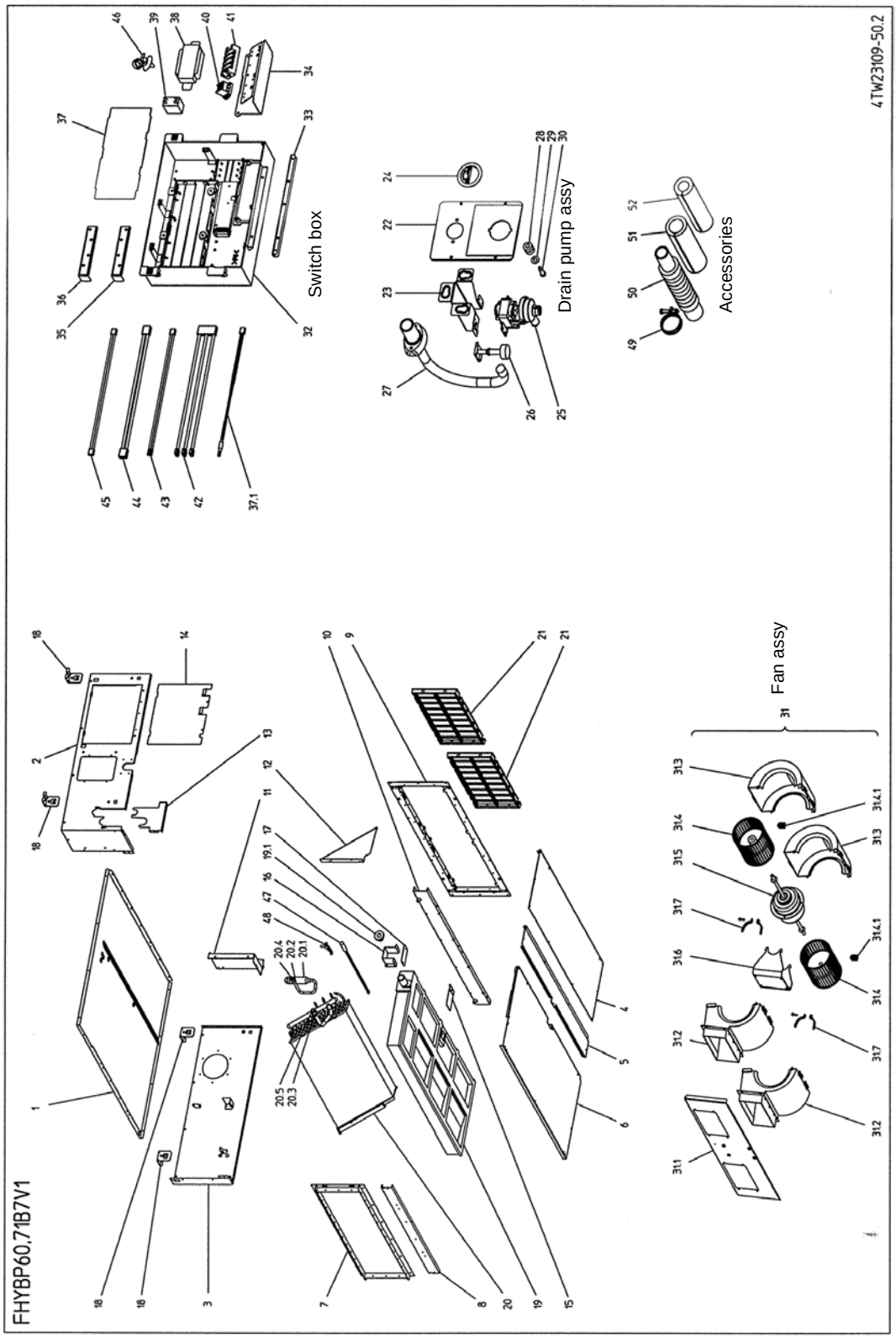
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote controller
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

2.4 FHYBP60B7V1 and FHYBP71B7V1

Exploded view

The illustration below shows the exploded view.



Components

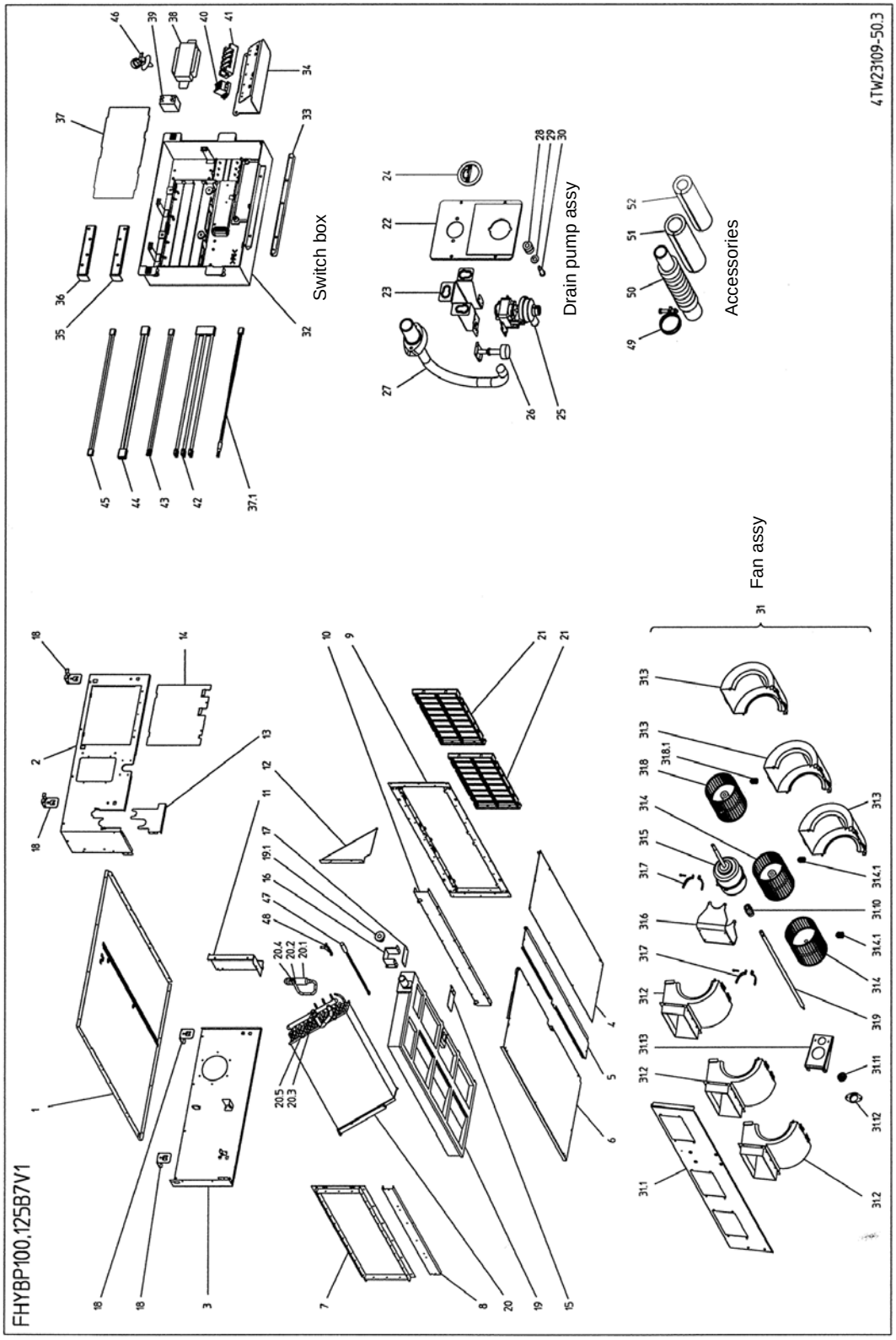
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote controller
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

2.5 FHYBP100B7V1 and FHYBP125B7V1

Exploded view

The illustration below shows the exploded view.



Components

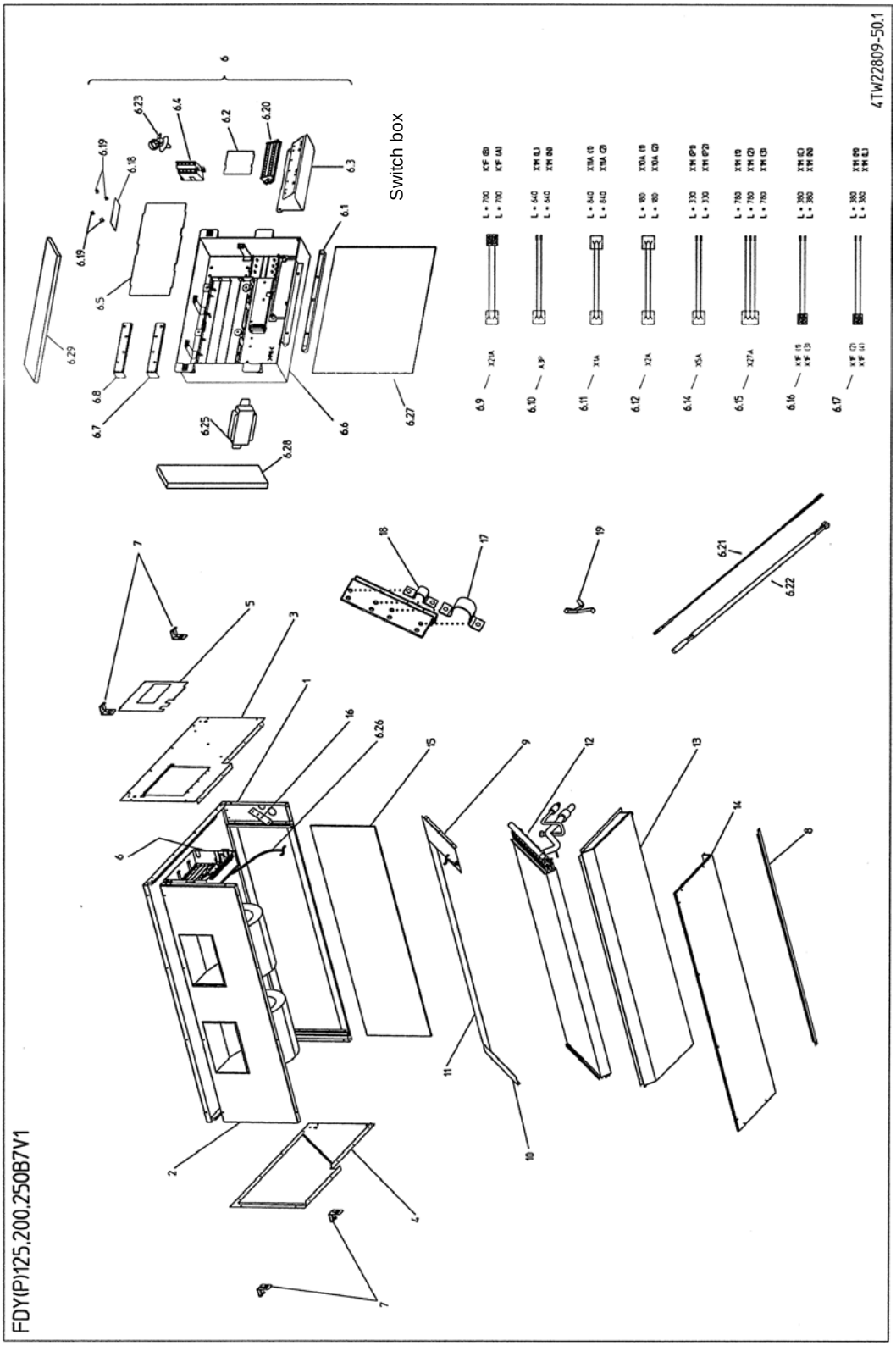
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote controller
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

2.6 FDYP125B7V1

Exploded view

The illustration below shows the exploded view.



Components

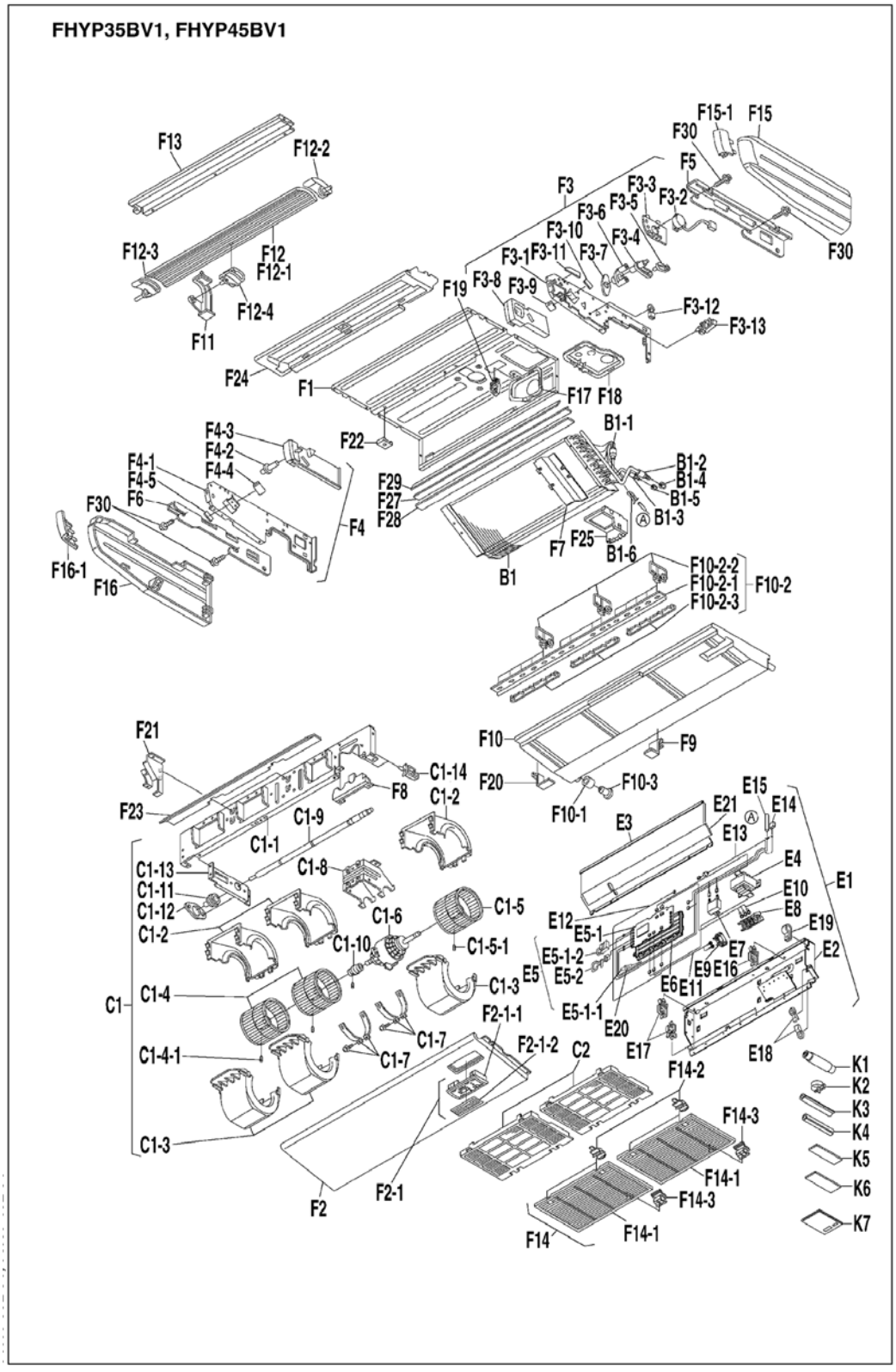
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	6.20	Terminal strip
2	Fan assy + fan mounting plate	6.21	Thermistor
3	Side plate right	6.22	Thermistor
4	Side plate left	6.23	Tie wrap with clip
5	Service cover assy	6.24	PCB assy
6	Switch box assy	6.25	Power supply transformer
6.1	Switch box fixing plate	6.26	Grounding wire
6.2	PCB assy power supply	6.27	Insulation switch box
6.3	Terminal fixing plate	6.28	Insulation switch box
6.4	Magnetic contactor	6.29	Insulation switch box
6.5	PCB assy	7	Hook
6.6	Switch box body	8	Filter cover
6.7	Option fixing plate left	9	Fixture heat exchanger right
6.8	Option fixing plate right	10	Fixture heat exchanger left
6.9	Wire harness	11	Bypass sealing plate
6.10	Wire harness	12	Heat exchanger assy
6.11	Wire harness power supply	13	Drain pan assy
6.12	Wire harness power supply	14	Bottom plate assy
6.14	Wire harness	15	Air filter
6.15	Wire harness	16	Pipe fixing plate
6.16	Wire harness	17	Clamp
6.17	Wire harness	18	Clamp
6.18	PCB assy	19	Thermistor (fixing)
6.19	Locking guard spacer	—	

2.7 FHYP35BV1 and FHYP45BV1

Exploded view

The illustration below shows the exploded view.



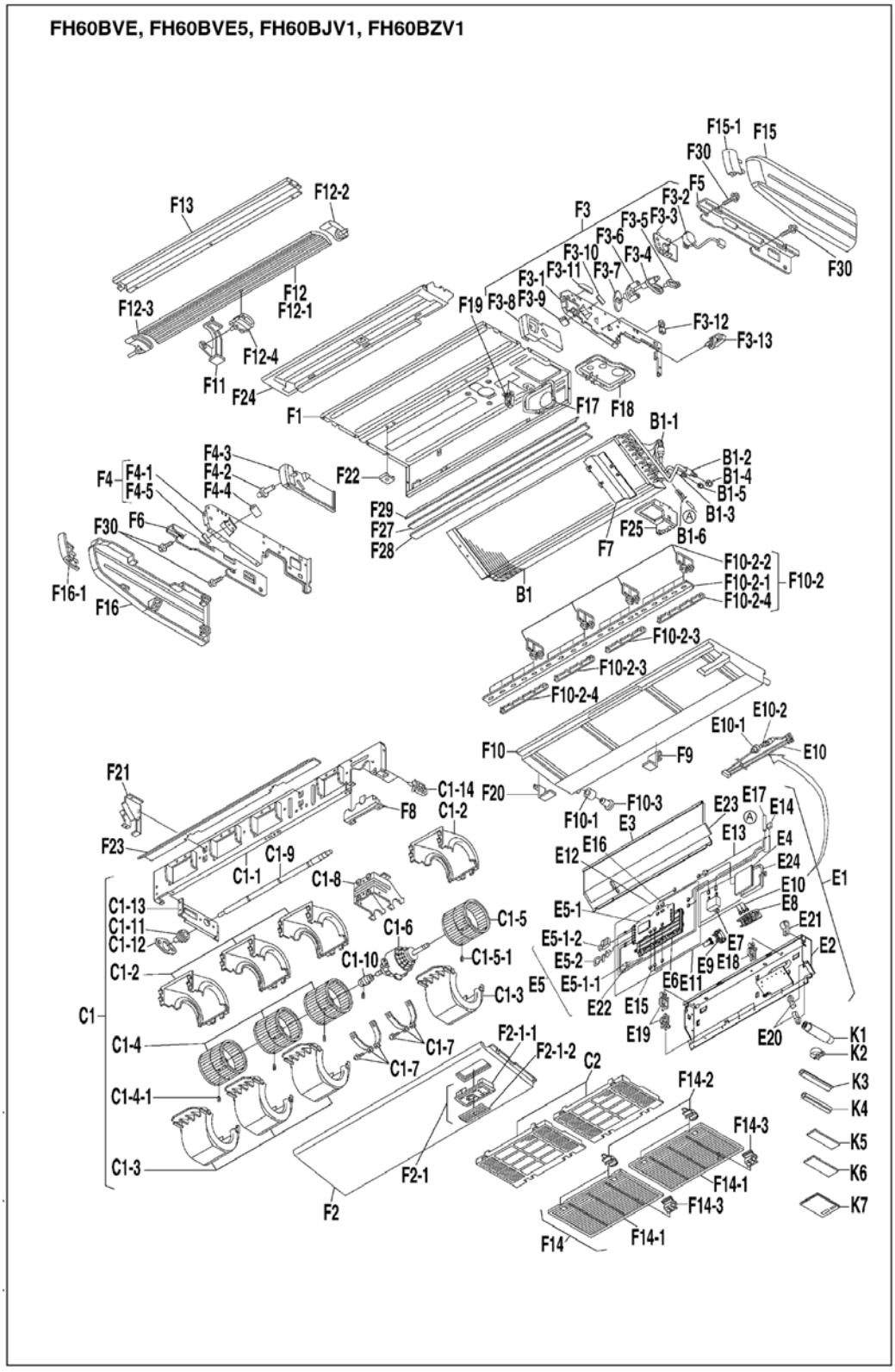
Components The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Evaporator assy	E14	Wire harness (swing motor)	F10.1	Insulation tube
B1.1	Distributor	E15	Wire harness (power unit)	F10.2	Vertical vane air discharge
B1.2	Union joint (gas line)	E16	Wire harness (power unit)	F10.2.1	Set plate vertical vane
B1.3	Union joint (liquid line)	E17	Thermistor	F10.2.2	Vertical vane air discharge
B1.4	Flare nut	E18	Wire clip	F10.2.3	Connecting bar vertical vane
B1.5	Flare nut	E19	Clamp	F10.3	Cap drain socket
B1.6	Retainer thermistor	E20	Lock metal	F11	Supporter
C1	Fan assy	E21	Wire clip	F12	Horizontal vane assy
C1.1	Top plate fan assy	E22	Bush thermistor	F12.1	Horizontal vane
C1.2	Fan housing	E23	Sound absorbing material	F12.2	Rod horizontal vane
C1.3	Fan housing	E24	Housing power unit	F12.3	Rod horizontal vane
C1.4	Fan rotor	F1	Top plate assy	F12.4	Rod horizontal vane
C1.4.1	Hexagon socket screw	F2	Bottom plate assy	F13	Decorative plate
C1.5	Fan rotor	F2.1	Name plate assy	F14	Air suction grille assy
C1.5.1	Hexagon socket screw	F2.1.1	Housing signal receiver	F14.1	Air suction grille
C1.6	Fan motor	F2.1.2	DAIKIN name plate	F14.2	Fixture air suction grille
C1.7	Lock metal fan motor	F3	Side plate assy (right)	F14.3	Hinge air suction grille
C1.8	Motor base	F3.1	Side plate (right)	F15	Side plate assy
C1.9	Fan shaft	F3.2	Swing motor assy	F15.1	Cover side plate
C1.10	Coupling fan shaft	F3.3	Set plate swing motor	F16	Side plate (left)
C1.11	Fan bearing	F3.4	Connecting arm horizontal vane	F17	Blind plate piping hole
C1.12	Bearing holder	F3.5	Crank air swing	F18	Blind plate piping hole
C1.13	Set plate bearing holder	F3.6	Bearing horizontal vane	F19	Wire clip
C1.14	Wire clip	F3.7	Heat insulation material	F20	Set plate drain pan
C2	Air filter	F3.8	Heat insulation material	F21	Supporter fan
E1	Electric components assy	F3.9	Heat insulation material	F22	Retainer
E2	Switch box	F3.10	Sealer	F23	Air guide plate
E3	Cover switch box	F3.11	Sealer	F24	Heat insulation cover top plate
E4	Printed circuit (power unit)	F3.12	Lock metal	F25	Insulation cover piping hole
E5	Printed circuit	F3.13	Wire clip	F27	Protector heat exchanger
E5.1	Printed circuit (control unit)	F4	Side plate assy	F28	Heat insulation cover
E5.1.1	Air thermistor	F4.1	Side plate (left)	F29	Heat insulation cover
E5.1.2	Connector	F4.2	Bearing horizontal vane	F30	Suspension bolt
E5.2	Capacity control adaptor	F4.3	Heat insulation material	K1	Drain hose
E6	Plastic case	F4.4	Heat insulation material	K2	Hose band
E7	Capacitor fan motor	F4.5	Heat insulation material	K3	Insulation tube (liquid line)
E8	Terminal block	F5	Hook metal	K4	Insulation tube (gas line)
E9	Terminal block	F6	Hook metal	K5	Sealer
E10	Wire harness (transmission)	F7	Side plate heat exchanger	K6	Sealer
E11	Wire harness (remote controller)	F8	Retainer refrigerant piping	K7	Operation manual
E12	Wire harness (feed back)	F9	Set plate drain pan		
E13	Wire harness (fan motor)	F10	Drain pan assy		

2.8 FHYP60BV1 and FHYP71BV1

Exploded view

The illustration below shows the exploded view.



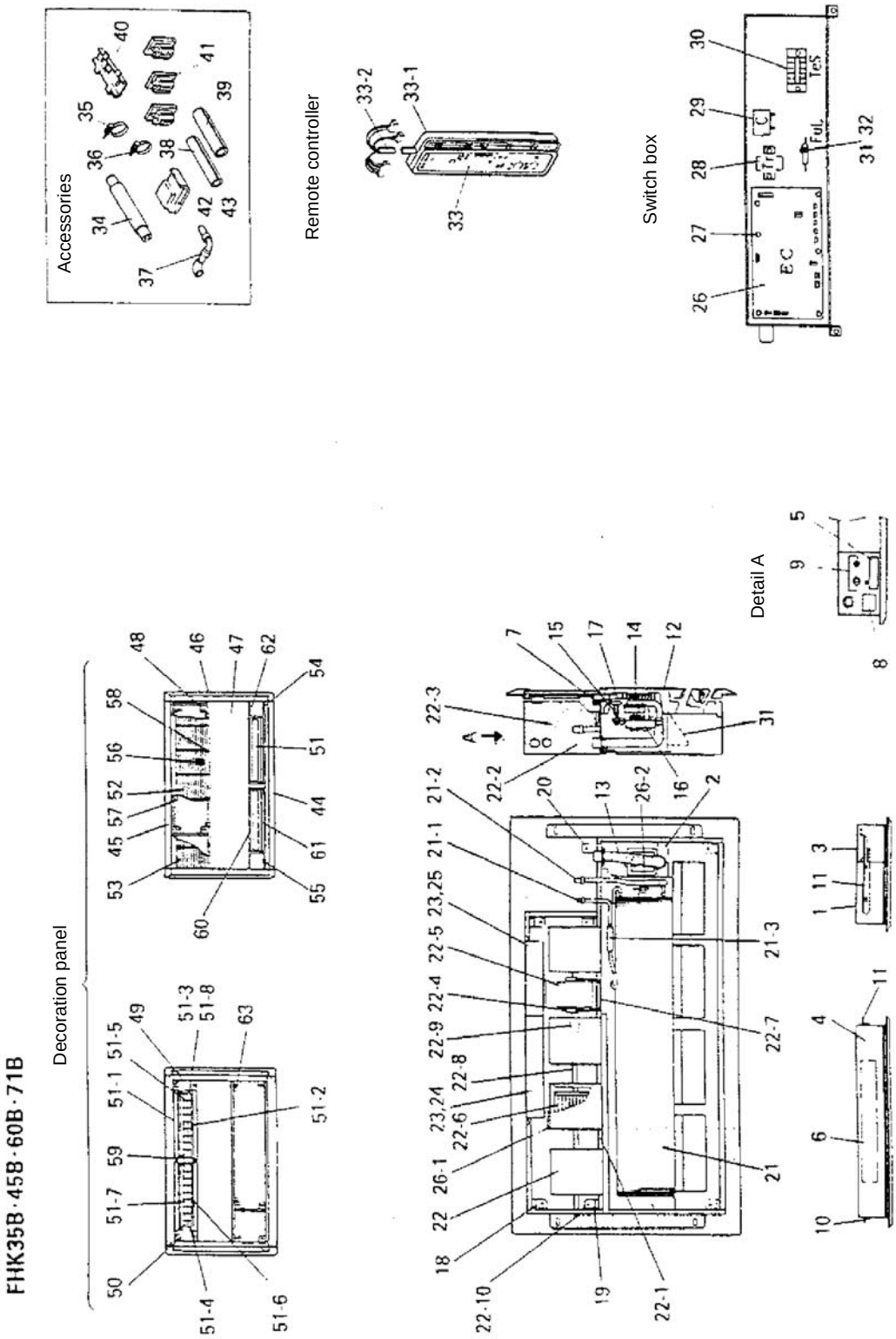
Components The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Evaporator assy	E13	Wire harness (fan motor)	F10.1	Insulation tube
B1.1	Distributor	E14	Wire harness (swing motor)	F10.2	Vertical vane air discharge
B1.2	Union joint (gas line)	E15	Wire harness (power unit)	F10.2.1	Set plate vertical vane
B1.3	Union joint (liquid line)	E16	Wire harness (power unit)	F10.2.2	Vertical vane air discharge
B1.4	Flare nut	E17	Thermistor	F10.2.3	Connect. bar vertical vane
B1.5	Flare nut	E18	Wire clip	F10.2.4	Connect. bar vertical vane
B1.6	Retainer thermistor	E19	Wire clip	F10.3	Cap drain socket
C1	Fan assy	E20	Lock metal	F11	Supporter
C1.1	Top plate fan assy	E21	Clamp	F12	Horizontal vane assy
C1.2	Fan housing	E22	Bush thermistor	F12.1	Horizontal vane
C1.3	Fan housing	E23	Sound absorbing material	F12.2	Rod horizontal vane
C1.4	Fan rotor	E24	Housing power unit	F12.3	Rod horizontal vane
C1.4.1	Hexagon socket screw	F1	Top plate assy	F12.4	Rod horizontal vane
C1.5	Fan rotor	F2	Bottom plate assy	F13	Decorative plate
C1.5.1	Hexagon socket screw	F2.1	Name plate assy	F14	Air suction grille assy
C1.6	Fan motor	F2.1.1	Housing signal receiver	F14.1	Air suction grille
C1.7	Lock metal fan motor	F2.1.2	DAIKIN name plate	F14.2	Fixture air suction grille
C1.8	Motor base	F3	Side plate assy (right)	F14.3	Hinge air suction grille
C1.9	Fan shaft	F3.1	Side plate (right)	F15	Side plate assy
C1.10	Coupling fan shaft	F3.2	Swing motor assy	F15.1	Cover side plate
C1.11	Fan bearing	F3.3	Set plate swing motor	F16	Side plate (left)
C1.12	Bearing holder	F3.4	Connecting arm horizontal vane	F17	Blind plate piping hole
C1.13	Set plate bearing holder	F3.5	Crank air swing	F18	Blind plate piping hole
C1.14	Wire clip	F3.6	Bearing horizontal vane	F19	Wire clip
C2	Air filter	F3.7	Heat insulation material	F20	Set plate drain pan
E1	Electric components assy	F3.8	Heat insulation material	F21	Supporter fan
E2	Switch box	F3.9	Heat insulation material	F22	Retainer
E3	Cover switch box	F3.10	Sealer	F23	Air guide plate
E4	Printed circuit (power unit)	F3.11	Sealer	F24	Heat insulation cover top plate
E5	Printed circuit	F3.12	Lock metal	F25	Insulation cover piping hole
E5.1	Printed circuit (control unit)	F3.13	Wire clip	F27	Protector heat exchanger
E5.1.1	Air thermistor	F4	Side plate assy	F28	Heat insulation cover
E5.1.2	Connector	F4.1	Side plate (left)	F29	Heat insulation cover
E5.2	Capacity control adaptor	F4.2	Bearing horizontal vane	F30	Suspension bolt
E6	Plastic case	F4.3	Heat insulation material	K1	Drain hose
E7	Capacitor fan motor	F4.4	Heat insulation material	K2	Hose band
E8	Terminal block	F4.5	Heat insulation material	K3	Insulation tube (liquid line)
E9	Terminal block	F5	Hook metal	K4	Insulation tube (gas line)
E10	Wire harness (transmission)	F6	Hook metal	K5	Sealer
E10.1	Fuse holder	F7	Side plate heat exchanger	K6	Sealer
E10.2	Fuse	F8	Retainer refrigerant piping	K7	Operation manual
E11	Wire harness (remote controller)	F9	Set plate drain pan	—	
E12	Wire harness (feed back)	F10	Drain pan assy		

2.9 FHYKP35BV1, FHYKP45BV1, FHYKP60BV1 and FHYKP71BV1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate	22.6	Fan motor
2	Partition plate drain pump	22.7	Motor base
3	Side plate fan chamber	22.8	Fan shaft
4	Front plate assy	22.9	Coupling
5	Wiring cover	22.10	Fan bearing
6	Blind plate ducting hole	23	Swtich box without devices
7	Drain pan holder	24	Cover switch box
8	Blind cover	25	Cover switch box
9	Cover piping hole	26	Printed circuit (control unit)
10	Suspend metal	26.1	Air thermistor
11	Suspend metal	26.2	Thermistor
12	Drain pan assy	27	Locking guard spacer
13	Drain hose	28	Transformer
14	Drain pump	29	Running capacitor
15	Buffer rubber drain pump	30	Terminal block
16	Set plate drain pump	31	Fuse holder
17	Float switch	32	Fuse control circuit
18	Fitting metal decoration panel	33	Remote controller
19	Fitting metal decoration panel	33.1	Bottom case remote controller
20	Fitting metal decoration panel	33.2	Lead wire remote controller
21	Evaporator	34	Drain hose
21.1	Union joint (liquid line)	35	Hose band
21.2	Union joint (gas line)	36	Hose band
21.3	Filter	37	Drain pipe
22	Fan assy with motor	38	Insulation tube
22.1	Top plate fan assy	39	Insulation tube
22.2	Fan housing	40	Hook remote controller
22.3	Fan housing	41	Staple
22.4	Clamp metal fan motor	42	Blind air discharge
22.5	Fan motor	43	Blind air discharge

2.10 FHYP100BV1 and FHYP125BV1

Overview

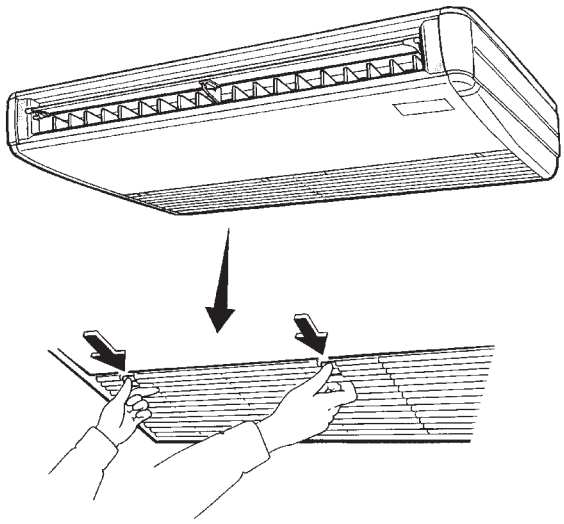
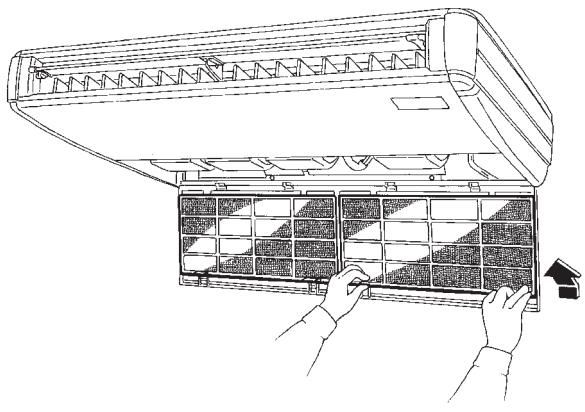
This part contains the following topics:

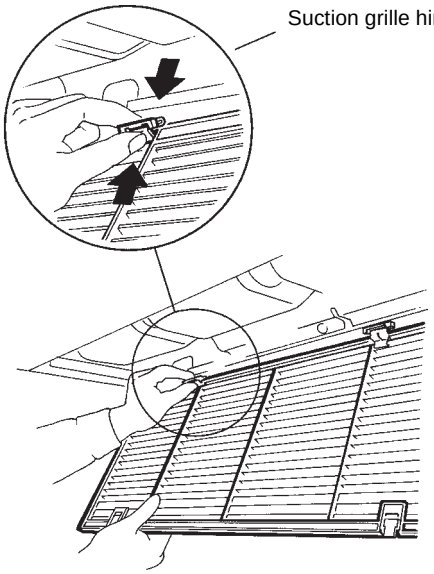
Topic	See page
How to remove the Air Filter and Suction Grille	5–34
How to remove the Electrical Parts and PC Boards	5–36
How to remove the Horizontal Blade	5–38
How to remove the Fan Rotor and Motor	5–40
How to remove the Fan Bearing	5–42
How to remove the Bottom Panel and Drain Pan	5–43
How to remove the Swing Motor	5–45

Warning

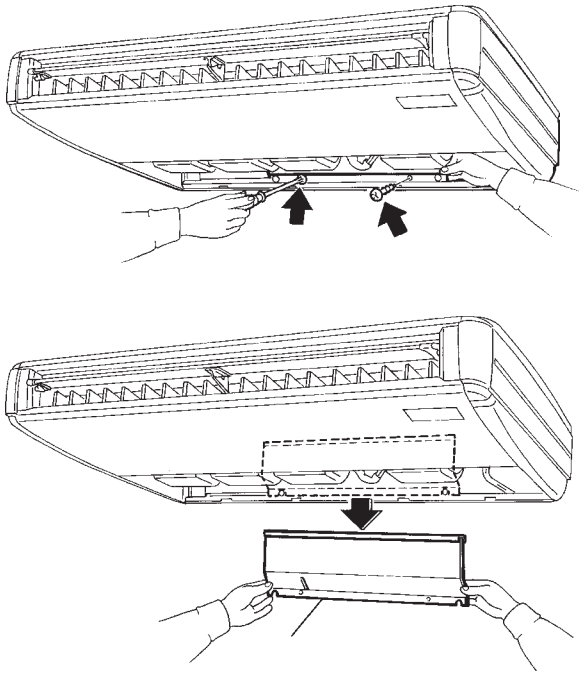
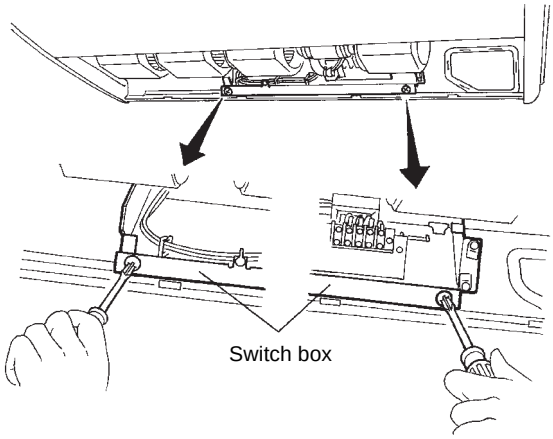
Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

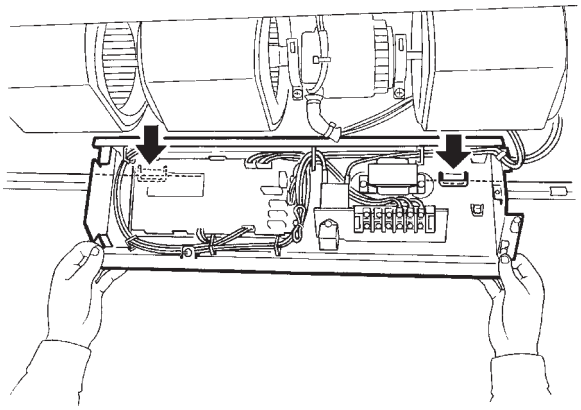
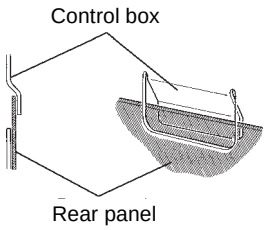
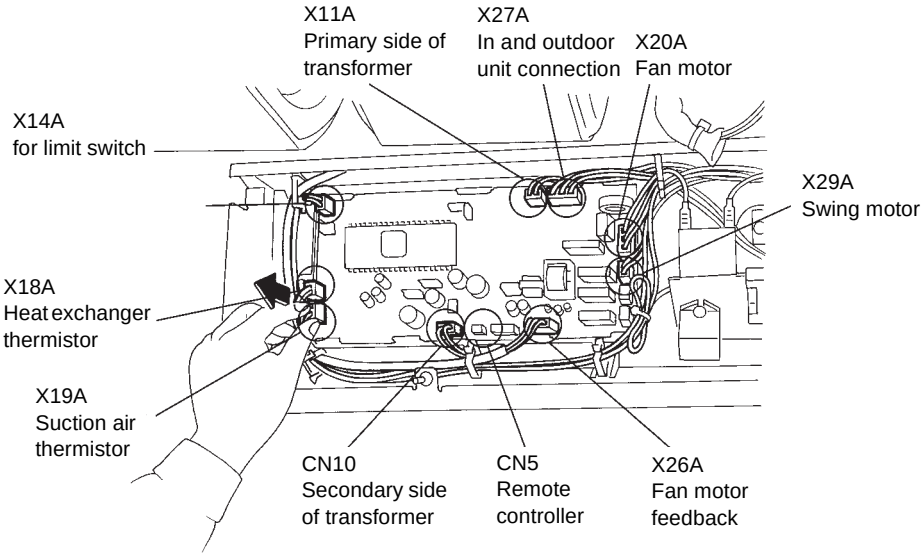
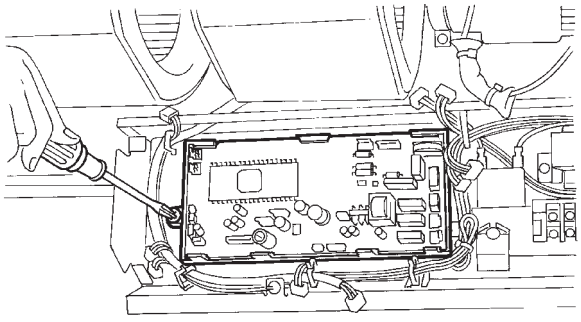
How to remove the Air Filter and Suction Grille

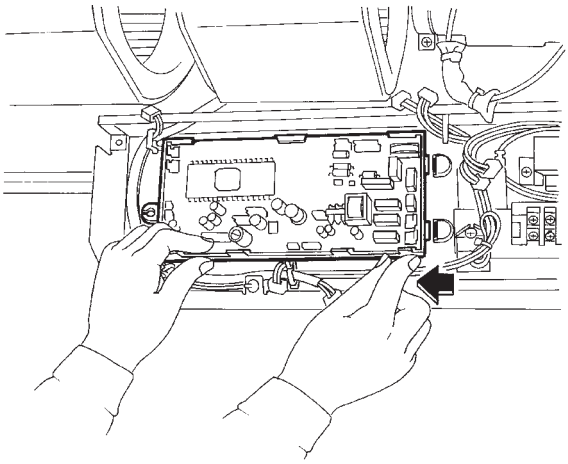
Step	Action
1	Push the 2 tabs and open the suction grilles. 
2	Push the air filter installation panel from 2 places in the direction of the arrow, and pull the air filter out toward yourself. 

Step	Action
3	Grip the suction grille hinge strongly and remove the suction grille. 

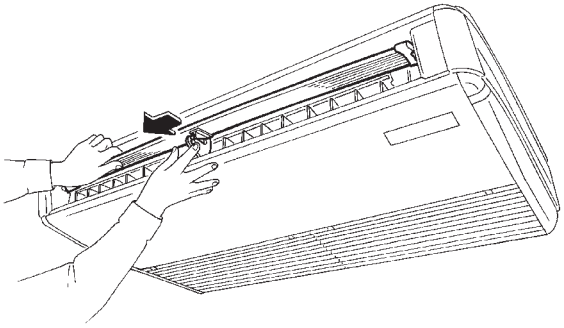
How to remove the Electrical Parts and PC Boards

Step	Action
1	Loosen the 2 screws of the control box cover and remove the control box cover. 
2	Remove the 2 screws of the control box. 

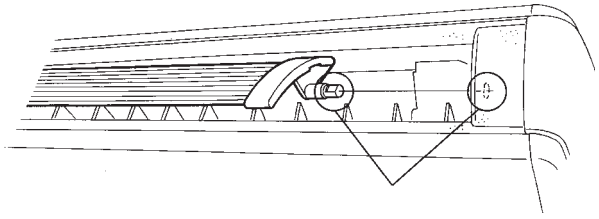
Step	Action
3	Pull down the control box and let it hang by the 2 locations in the rear. Electrical parts can now be removed.  
4	Disconnect the connector mounted on the PC board. 
5	Remove the PC board installation screw. 

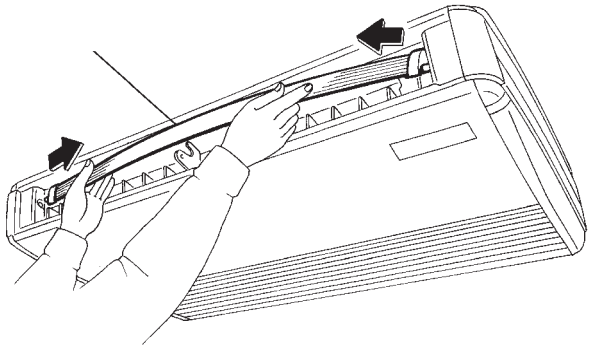
Step	Action
6	Slide the PC board to the left away from the tabs on the right, and remove the PC board. 

How to remove the Horizontal Blade

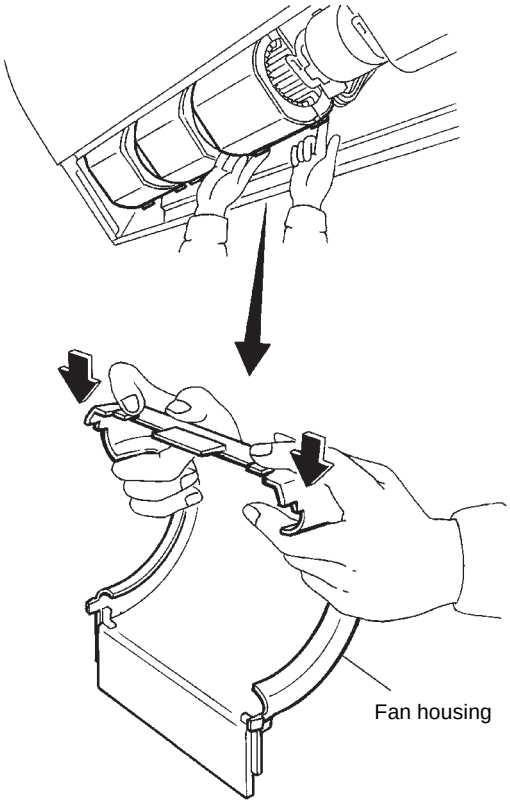
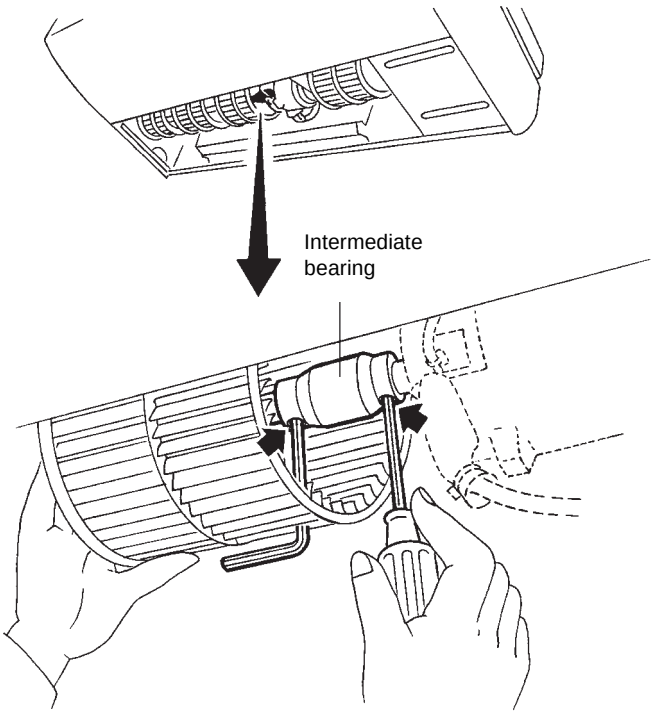
Step	Action
1	Gently bend the support plate located at the center of the horizontal blade, and detach the center shaft. (Two shafts provided on Types 140 and 160.) 

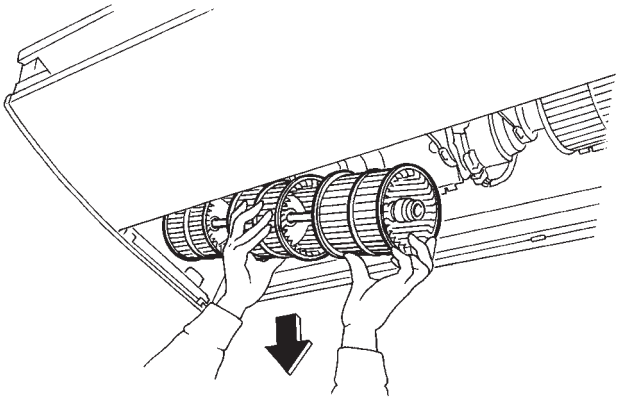
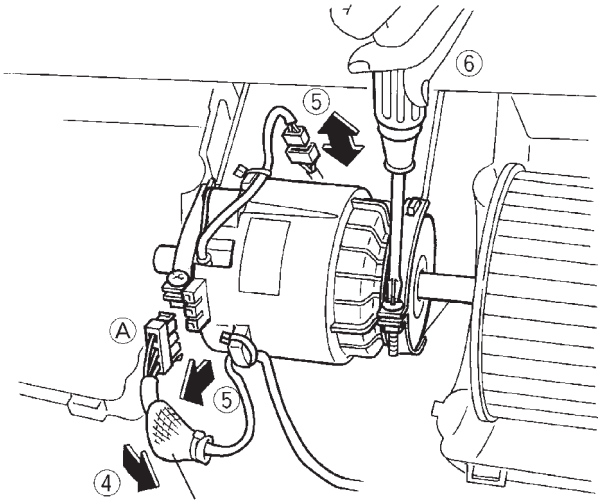
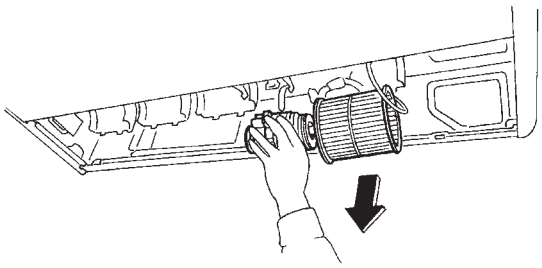
Reassembling precautions
The shaft at the right end of the horizontal blade is cut in D shape. Fit this D-shaped end to the D-profiled bearing. Reattach the horizontal blade at the right side first.



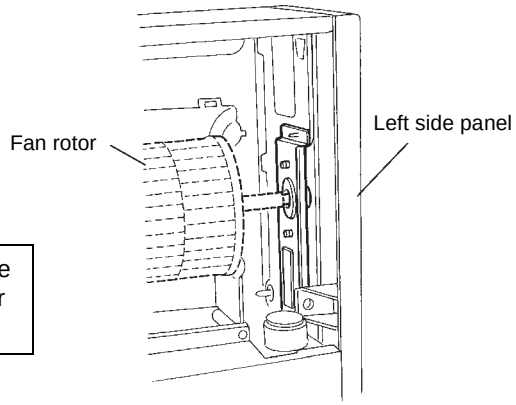
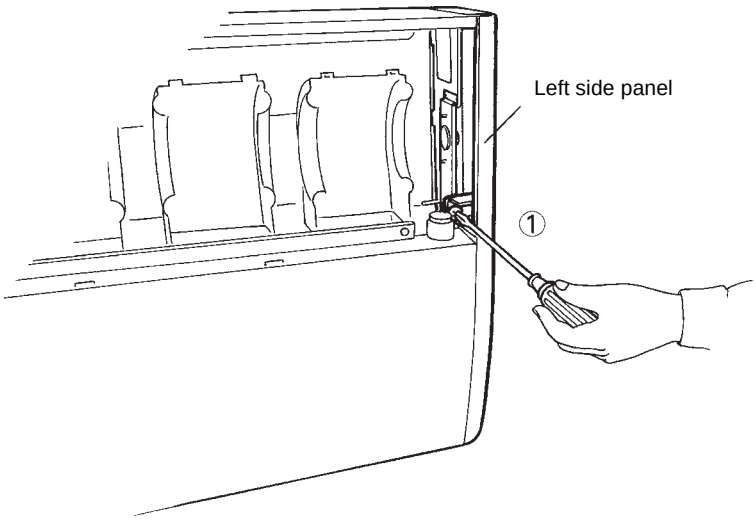
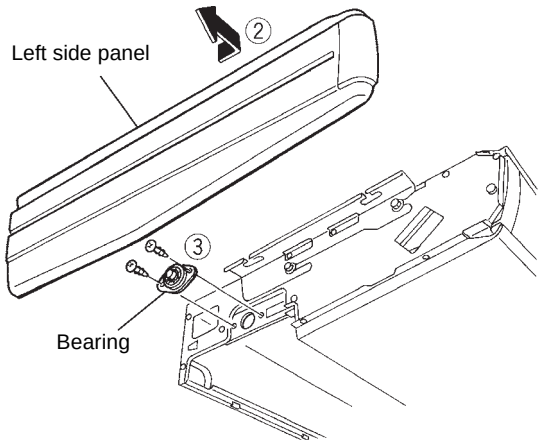
Step	Action
2	Then gently bend the center of the horizontal blade, and take both the end shafts out of their bearings.  * When removing the horizontal blade from the bearings at both ends, be careful not to get the blow port thermal insulation scratched.

How to remove the Fan Rotor and Motor

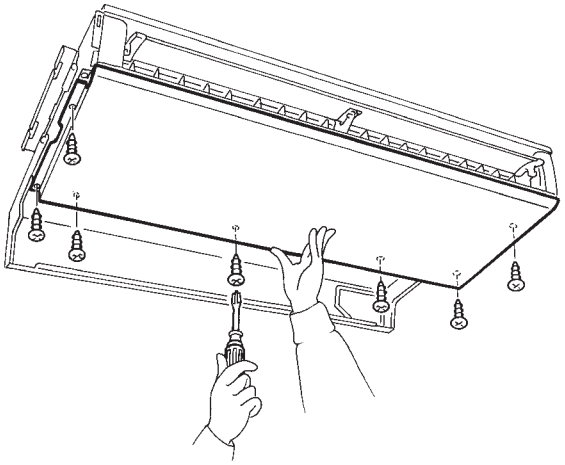
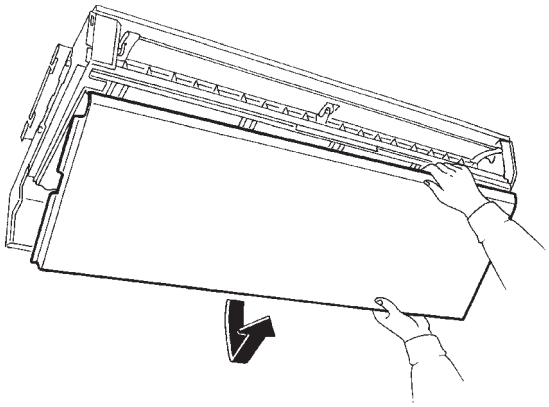
Step	Action
1	Push the 2 tabs of the fan housing towards the inside with your fingers and pull out the fan housing. 
2	Loosen the 2 hexagon set screws of the intermediate bearing.. 

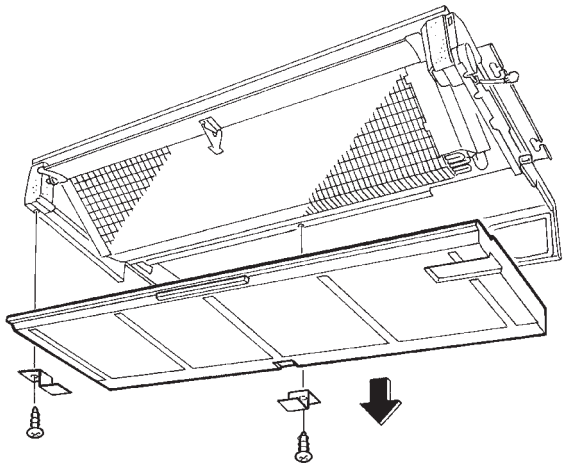
Step	Action
3	Slide the intermediate bearing to the right and remove the fan rotor assembly. 
4 **5** **6**	Cut off the tie-wrap of the glass tube cover over the fan motor connector. Slide the glass tube and get the connector exposed. Disconnect the 2 fan motor connectors. Remove the 2 fan motor fasteners..  Glass tube
7	Remove the fan motor. 

How to remove the Fan Bearing

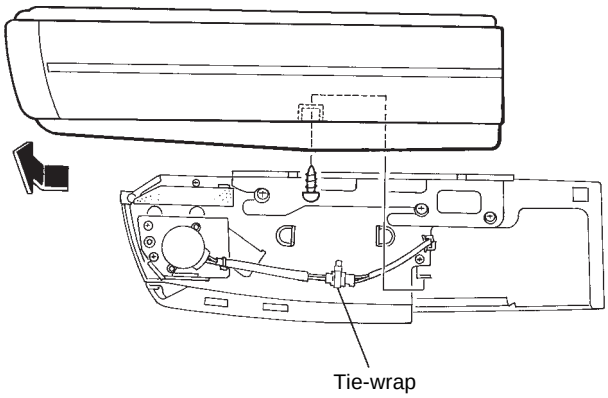
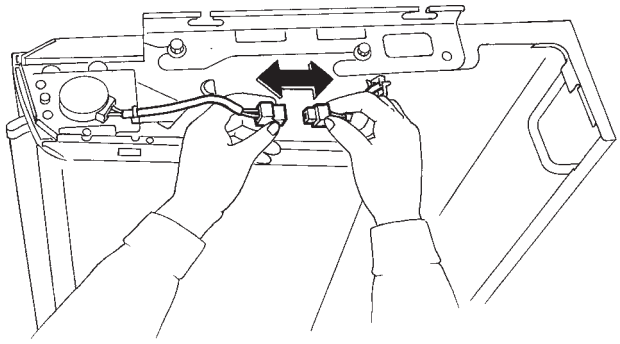
Step	Action
1	Remove the left sidepanel installation screw.  * Remove the fan rotor according to the procedures for removing the fan rotor and fan motor. 
2 **3**	Slide the left side panel toward the front of the unit and remove; Remove the 2 bearing installation screws and remove the bearing. 

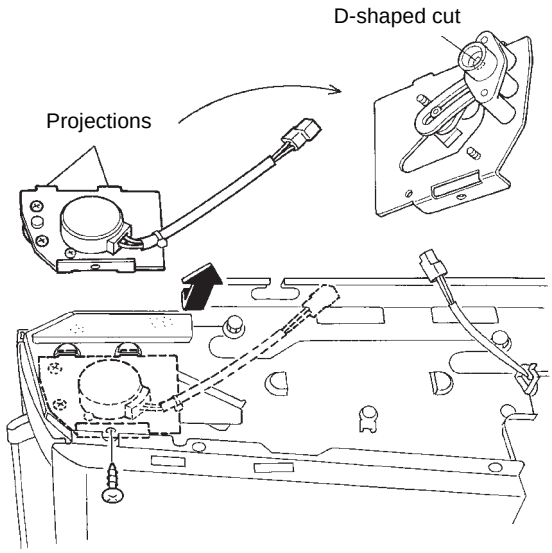
How to remove the Bottom Panel and Drain Pan

Step	Action
1	Remove the 7 bottom panel installation screws (2 each on the left and right, 3 in the rear), and remove the bottom panel.  * Remove the rear surface screws (2 each on the left and right), and remove the center screw while supporting the bottom panel from underneath.
2	Let down the rear of the bottom panel, push out toward the front (removed from the hooking part) and remove.. 

Step	Action
3	Remove the drain pan retainer (2 screw). 

How to remove the Swing Motor

Step	Action
1	Remove the screw from the right side panel. Slide the right side panel toward the front and detach it.
2	Cut off the tie-wrap of the swing motor connector.. 
3	Disconnect the connector from the swing motor connector. 

Step	Action
4	Remove the screw from the swing motor. The swing motor has two projections on it. Lower the swing motor and take it out.  * When reassembling, fit the horizontal blade shaft end to the D-profiled bearing. Apply the tie-wrap to the connectors to secure them in place.

2.11 FUYP71~125BV17

Overview

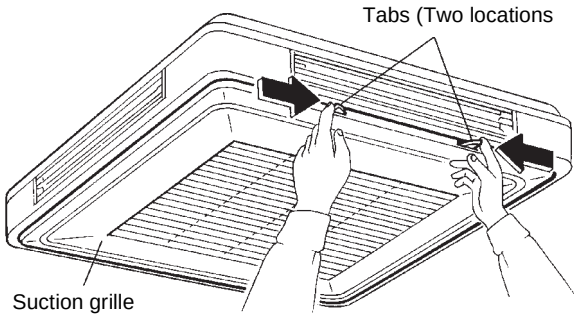
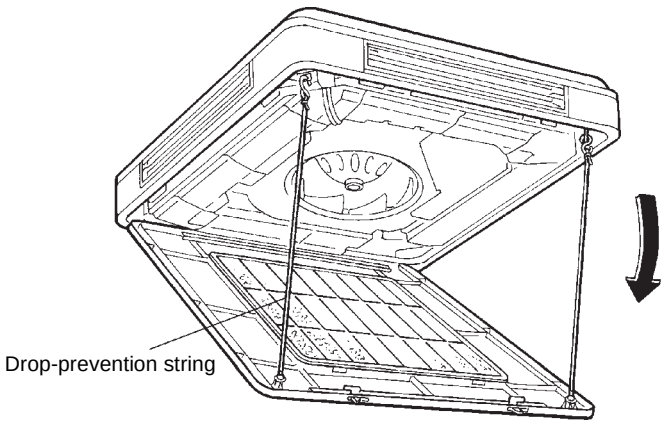
This part contains the following topics:

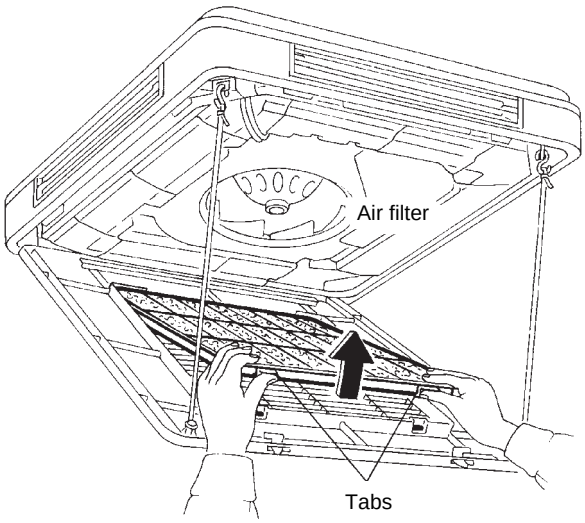
Topic	See page
How to remove the Air filter	5–47
How to remove the Suction Grille	5–49
How to remove the Fan	5–51
How to remove the Fan Motor	5–54
How to remove the Drain Pan	5–56
How to remove the Drain Pump	5–59
How to remove the Swing Motor	5–61
How to remove the Air Flow Control Blade	5–62

Warning

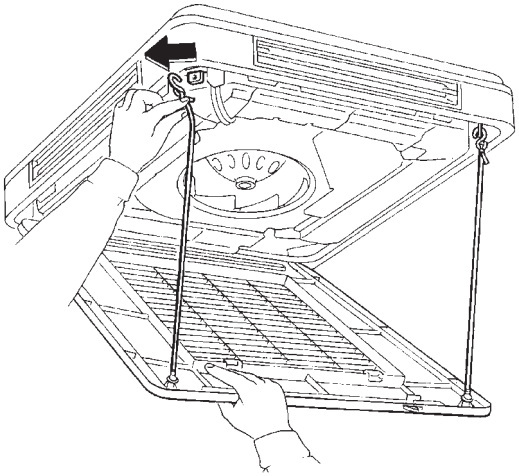
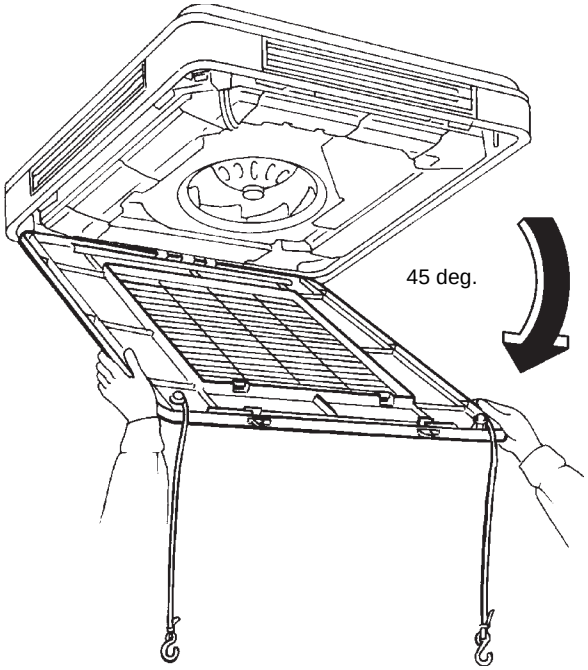
Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

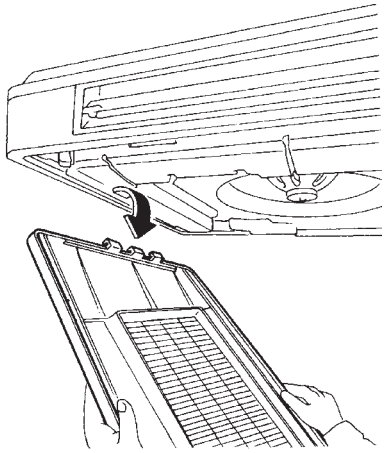
How to remove the Air filter

Step	Action
1	Opening suction grille Push two tabs on suction grille toward the center of grille at the same time. 
2	Pull down suction grille. (Two strings are equipped to prevent the grille from dropping.) 

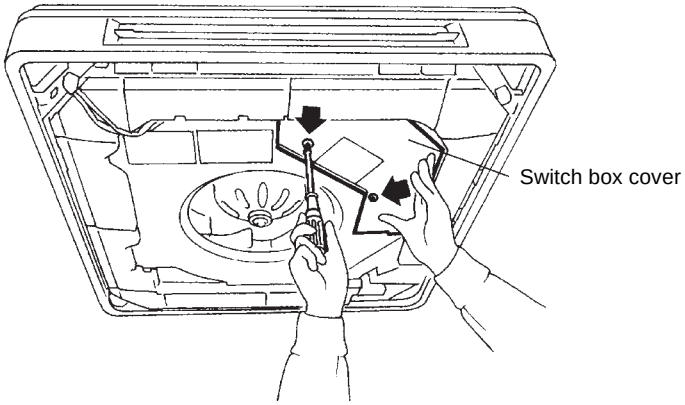
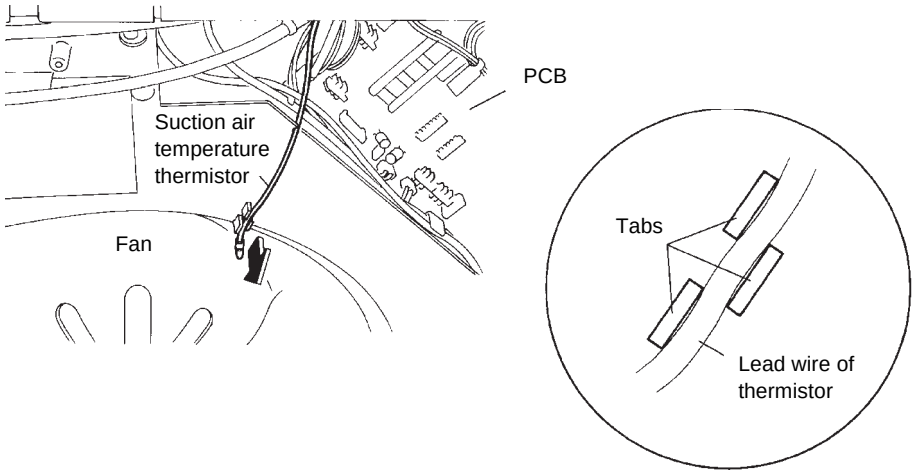
Step	Action
3	To remove air filter, lift the tabs up at the same time and pull it forward. 

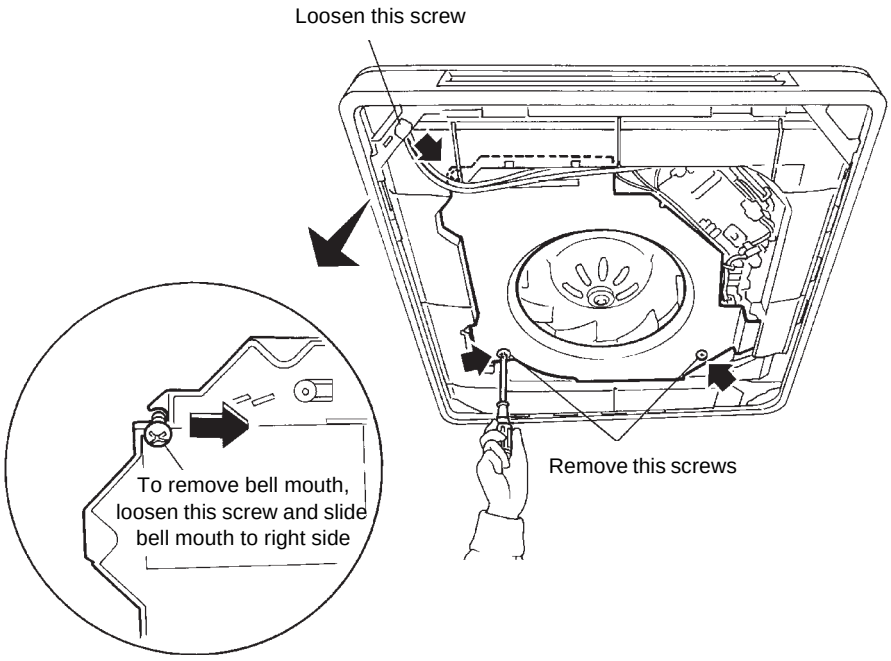
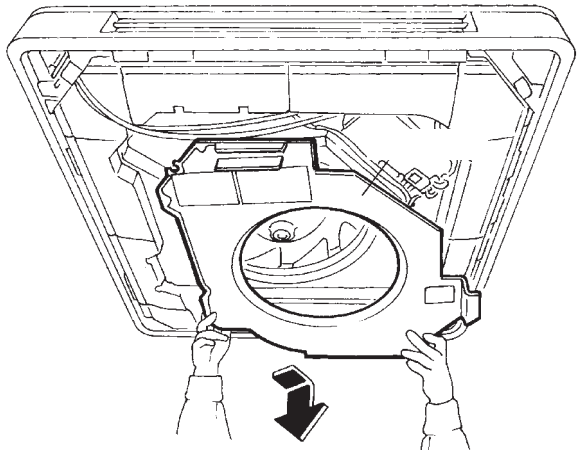
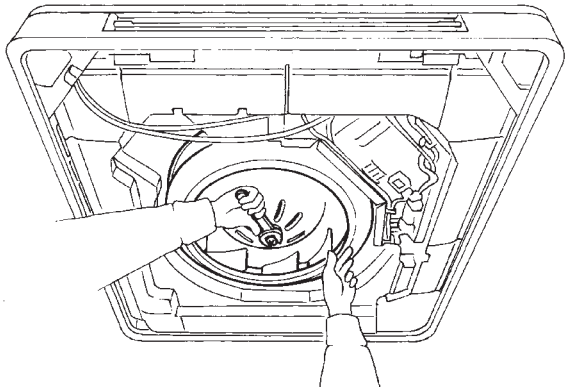
How to remove the Suction Grille

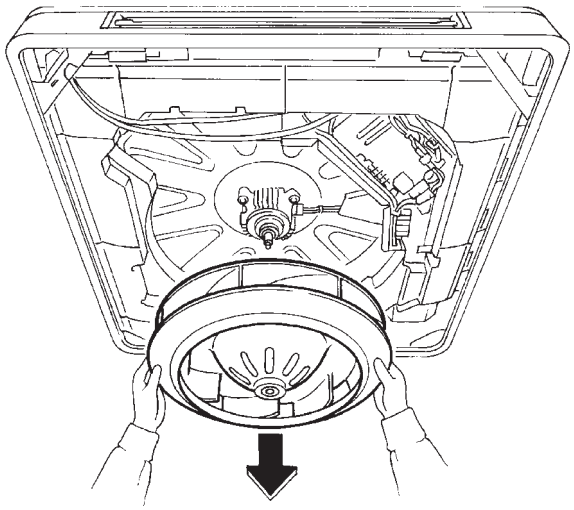
Step	Action
1	Unhook two drop-prevention strings while supporting suction grille with hand. 
2	Open suction grille forward for approx. 45 degree. 

Step	Action
3	Disengage three hooks located at rear side of the grille to remove suction grille. 

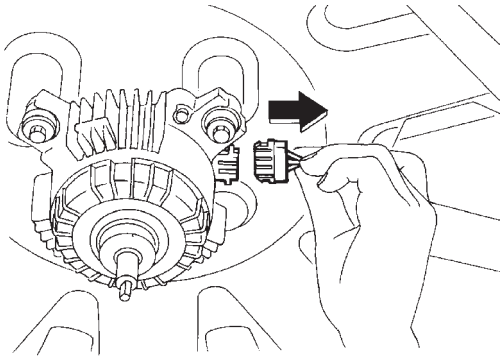
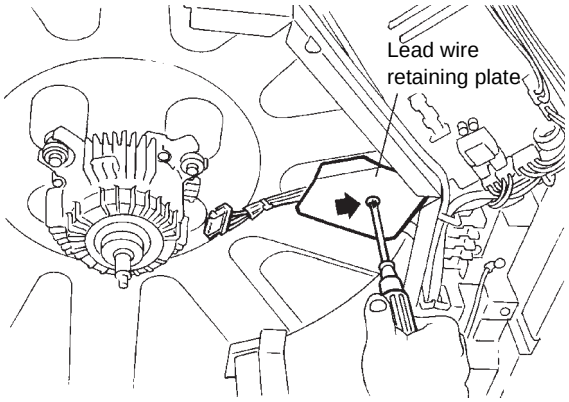
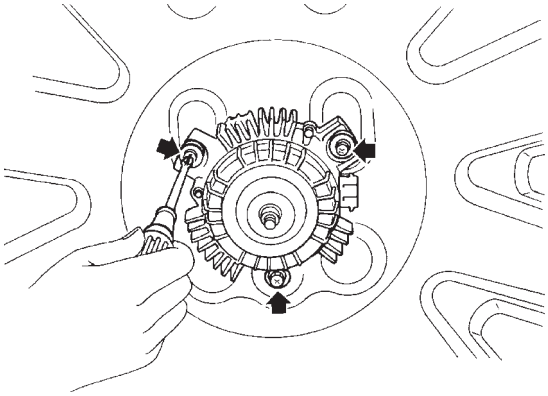
How to remove the Fan

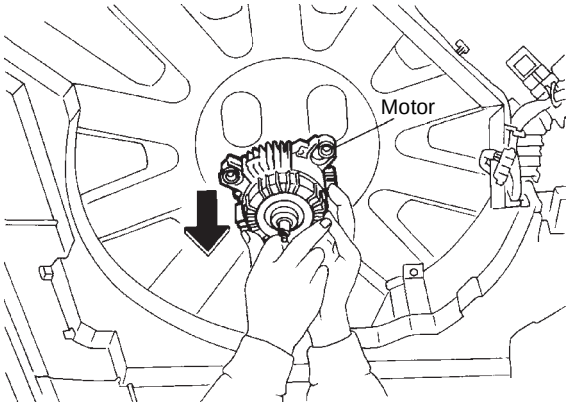
Step	Action
1	Remove two mounting screws to dismount switch box cover. 
2	Remove suction air temperature thermistor attached to bell mouth. 

Step	Action
3	Bell mouth is mounted with tree screws.Loosen a screw located at diagonal position to the pipings and remove other two screws. 
4	Remove bell mouth by sliding to piping direction. 
5	To dismount fan, remove washer based nut using double-ended wrench. 

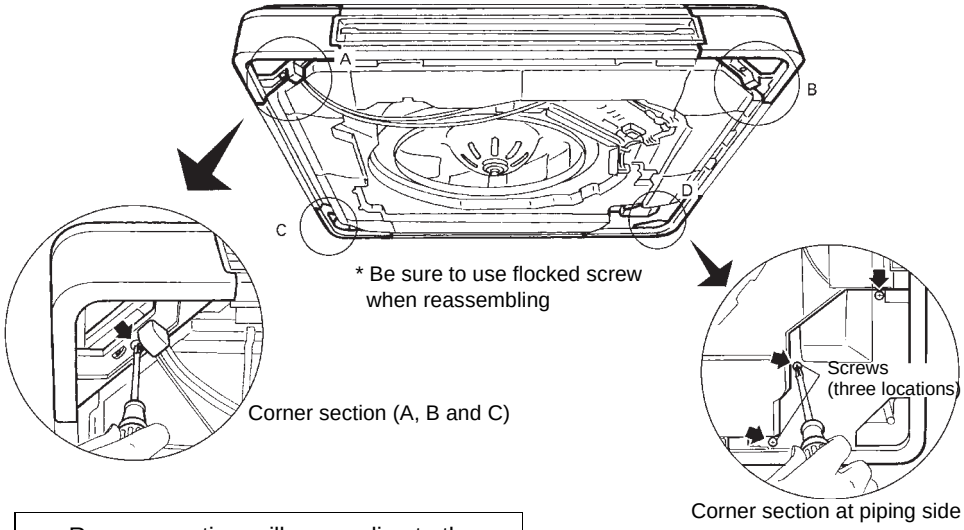
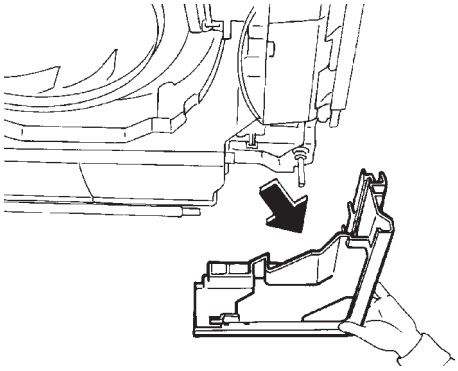
Step	Action
6	Remove fan by pulling down. 

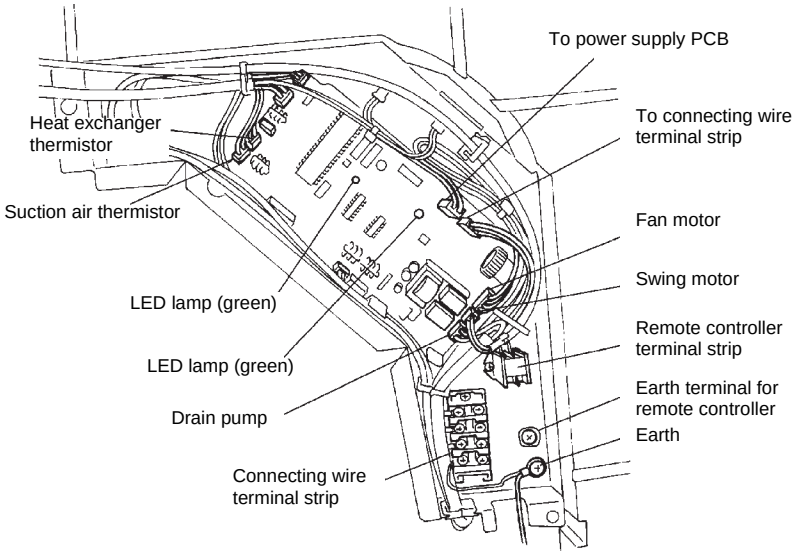
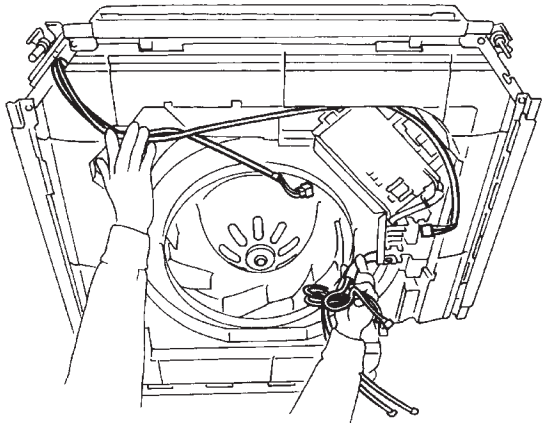
How to remove the Fan Motor

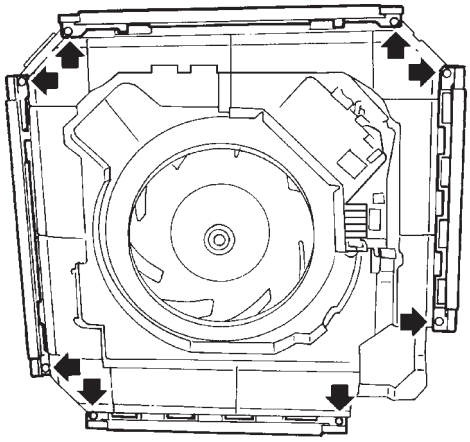
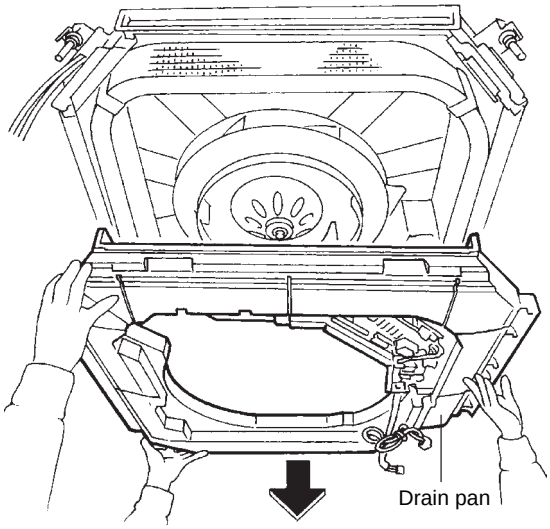
Step	Action
1	Removing fan motor: a. Disconnect connector. b. Remove lead wire retaining plate.   **Caution** Fan motor can be removed without removing the lead wire retaining plate. However, when washing the heat exchanger, this plate should be removed and protect the lead wires.
2	Remove screws for mounting fan motor.  ➤ FUY71FJV1: Three screws ➤ FUY100/125FJV1: Four screws

Step	Action
3	Remove motor by pulling down. 

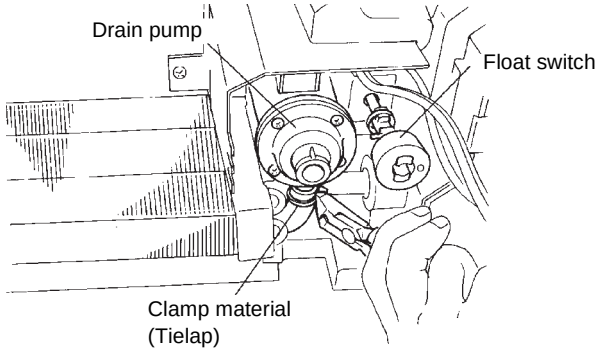
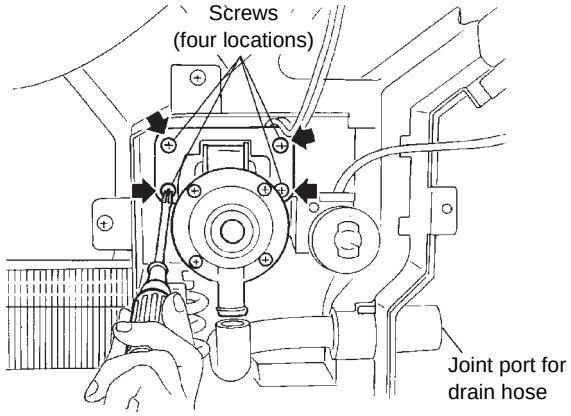
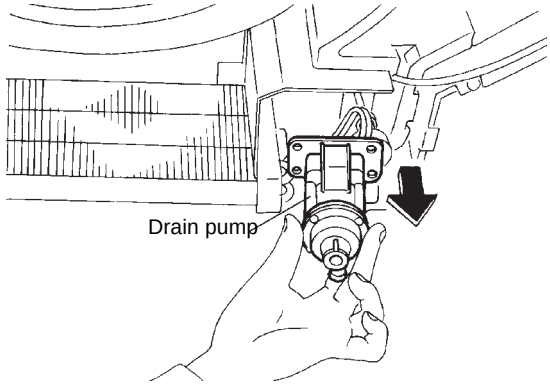
How to remove the Drain Pan

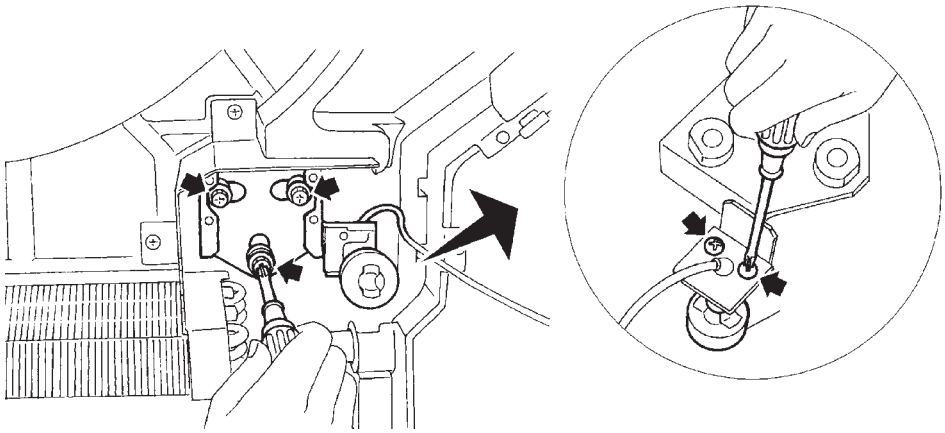
Step	Action
1	To dismount three corner sections A, B and C, remove a flocked screw.  ➤ Remove suction grille according to the Removal of air filter and that of suction grille.
2	Remove three flocked screws to dismount corner section D. 

Step	Action
3	Disconnect wires and connectors from PCB. 
4	Arrange wire harness to avoid interference with next process.  **Caution** This work should be done by two personnel. If drain water remain in the pan, it may drop and stain onthe floor. Make sure to check if no drain water remain in the pan, or cover the floor with vinyl sheet before disassembling work.

Step	Action
5	To dismount drain pan blocking plate, remove each two mounting screws located at four corners. 
6	Remove drain pan by pulling it down. 

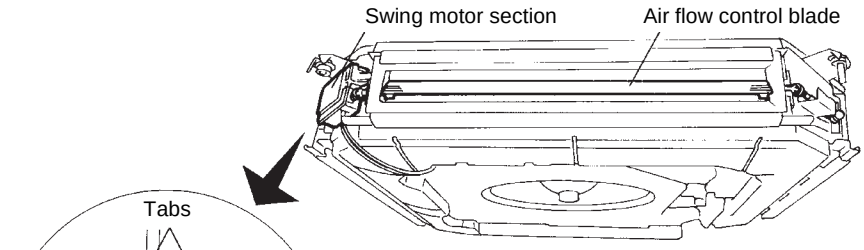
How to remove the Drain Pump

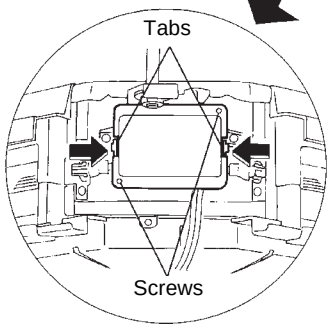
Step	Action
1	Drain pump is located at piping side. Cut clamp material of hose, and disconnect hose from pump.  **Caution** When reconnect drain hose with the pump, secure hose at joint using clamping material- such as Tielap. (Clamping material should be normally included in the stock items.)
2	Remove four screws to dismount drain pump. 
3	Dismount drain pump by pulling it down. 

Step	Action
4	Removing float switch: a. Loosen three mounting screws to remove drain pump mounting base. b. Remove two screws located at opposite side of drain pump mounting base to dismount float switch. 

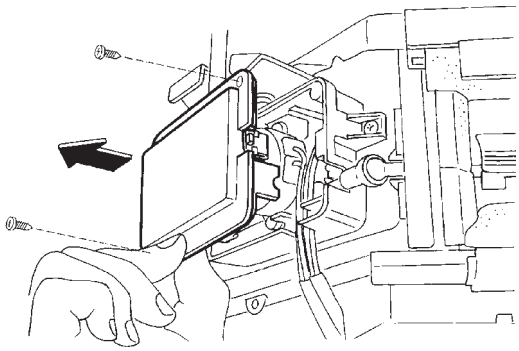
How to remove the Swing Motor

Step	Action
1	Swing motor is located at the diagonal position of piping
2	Remove two mounting screws for swing motor cover
3	Remove swing motor cover by holding two tabs on the cover.

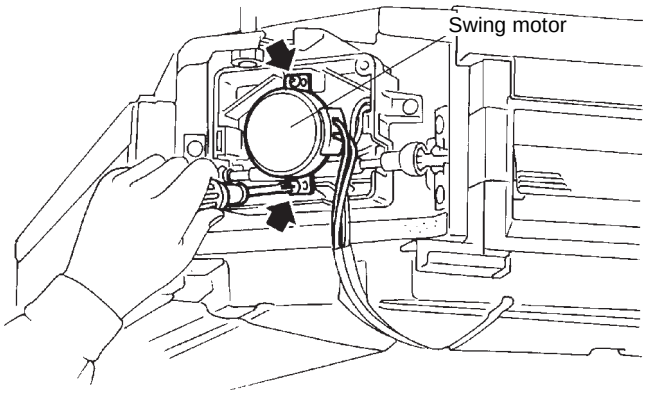


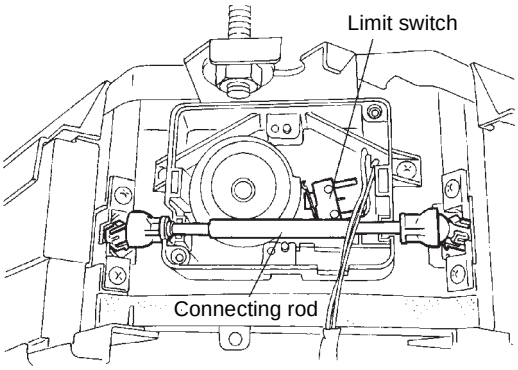


➤ Remove suction grille according to the removal of suction grille

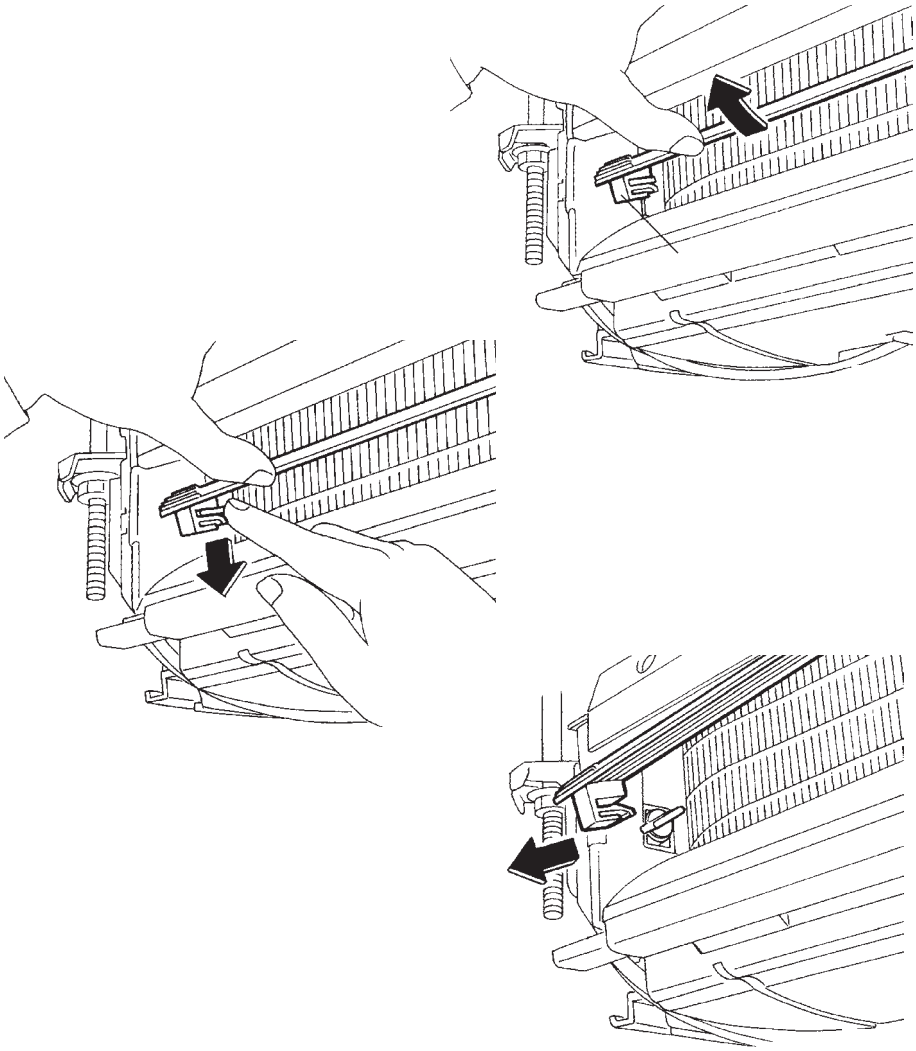
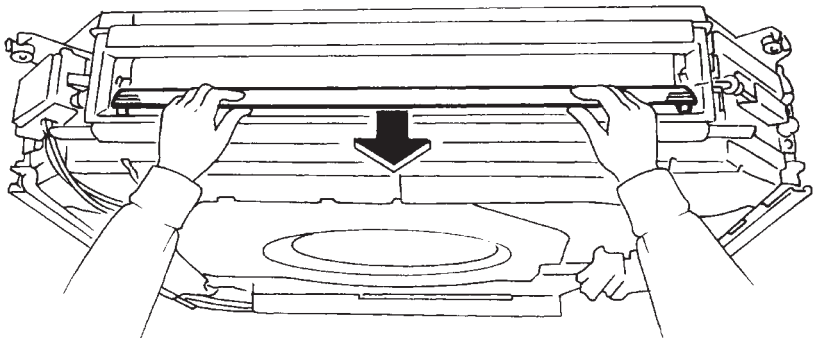


4	Remove two screws to dismount swing motor.





How to remove the Air Flow Control Blade

Step	Action
1	To remove horizontal blade, press down tabs located at both end of blade and pull them forward. 
2	Remove horizontal blade. 

2.12 FAYP71LV1

Overview

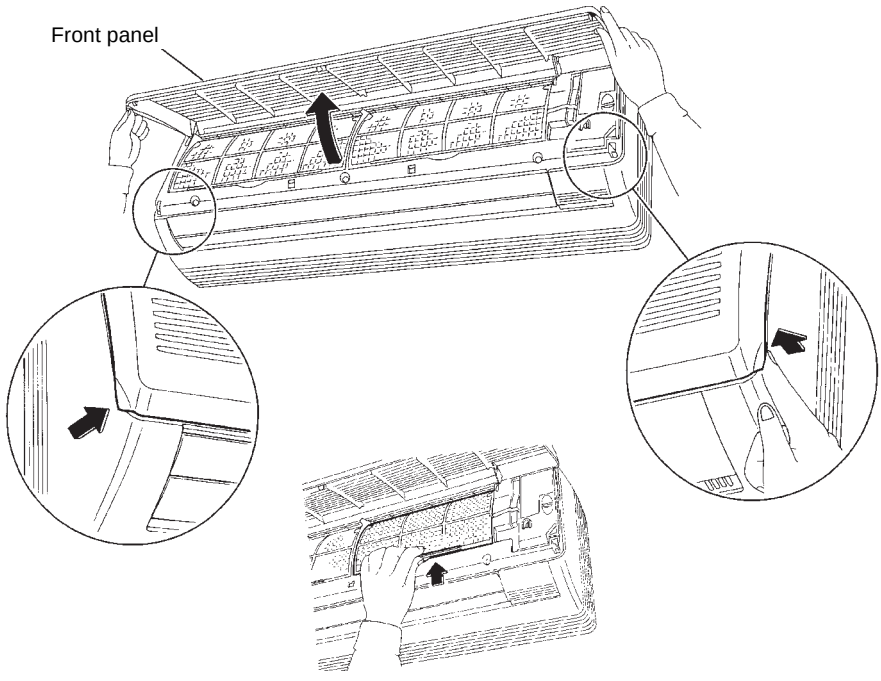
This part contains the following topics:

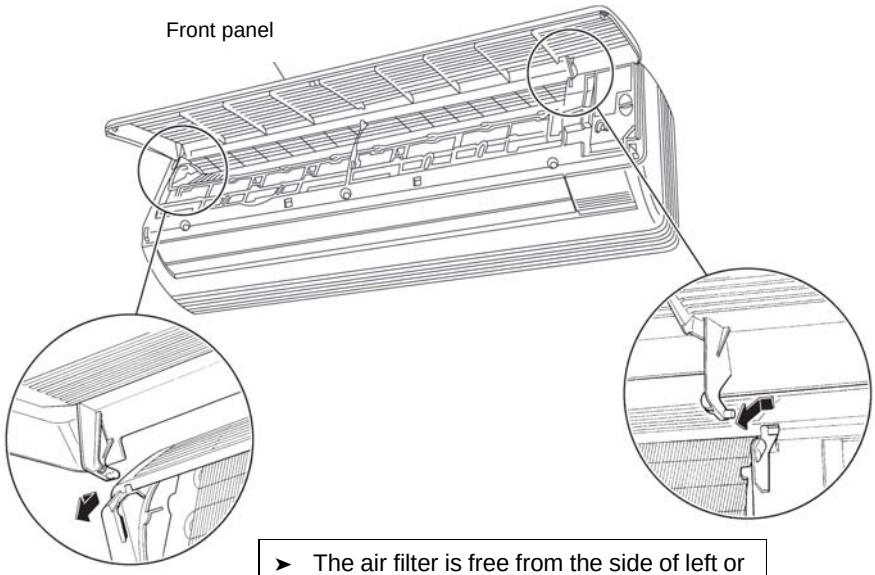
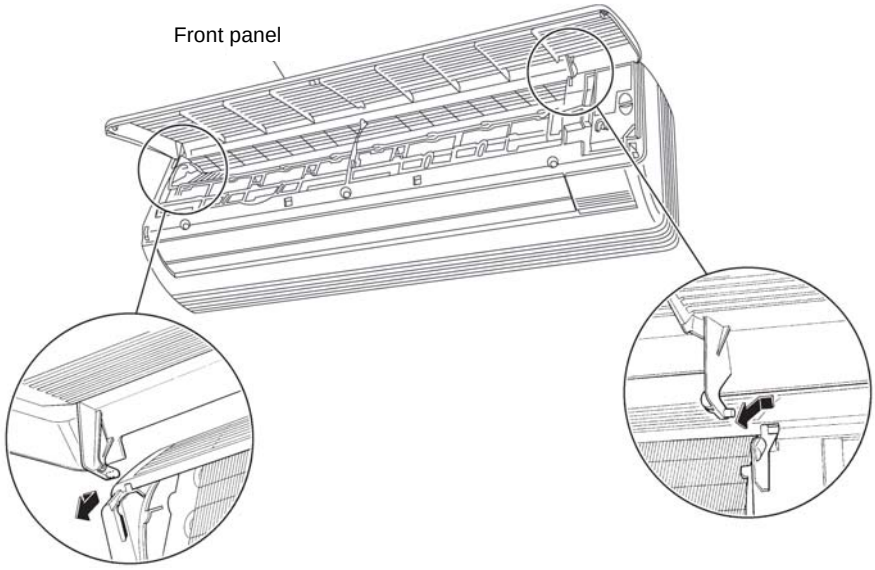
Topic	See page
How to remove the Air filter and Front Panel	5–63
How to remove the Front Grille	5–65
How to remove the Horizontal Blade and Vertical Blade	5–66
How to remove the Electrical Box	5–68
How to remove the Heat Exchanger	5–70
How to remove the Fan Motor and Fan Rotor	5–72
How to remove the Air Swing Motor	5–73
How to remove the Drain Hose Piping to the Left	5–74

Warning

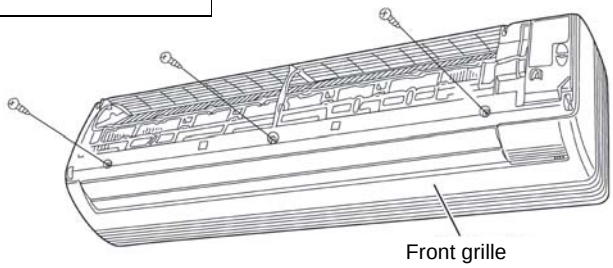
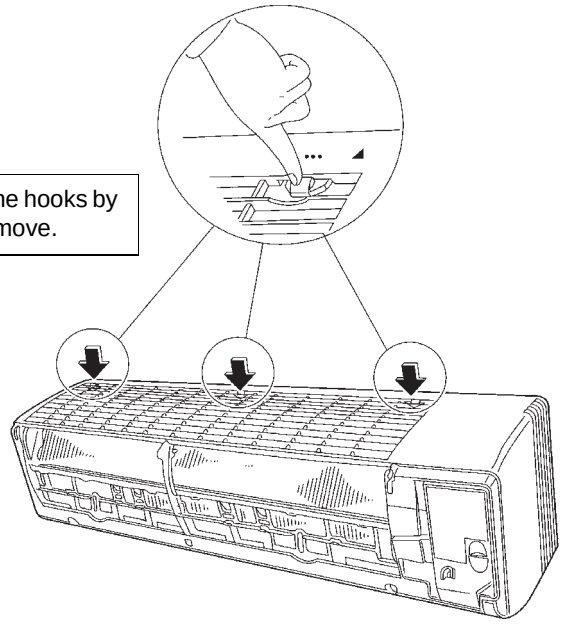
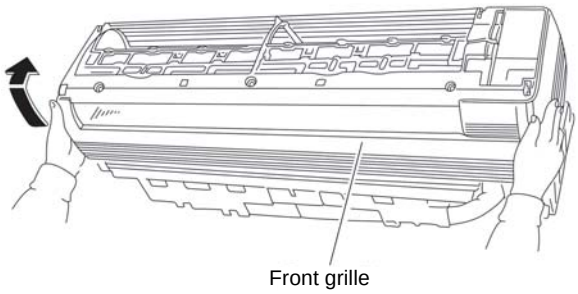
Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

How to remove the Air filter and Front Panel

Step	Action
1	Put your fingers on protrusions at left and right side of the unit to open the front panel. 

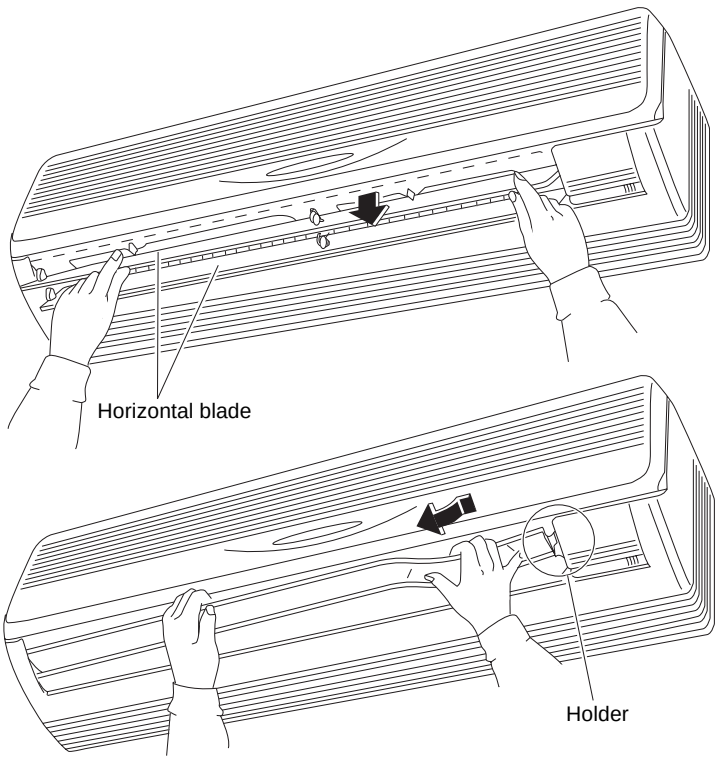
Step	Action
2	To remove the air filter, push up the tab and pull down the filter.  ➤ The air filter is free from the side of left or right. ➤ It is easy to install if inserting along the guide.
3	Disengage the holding section on upper right of the panel by pushing toward left, then slide toward right to remove the front panel. 

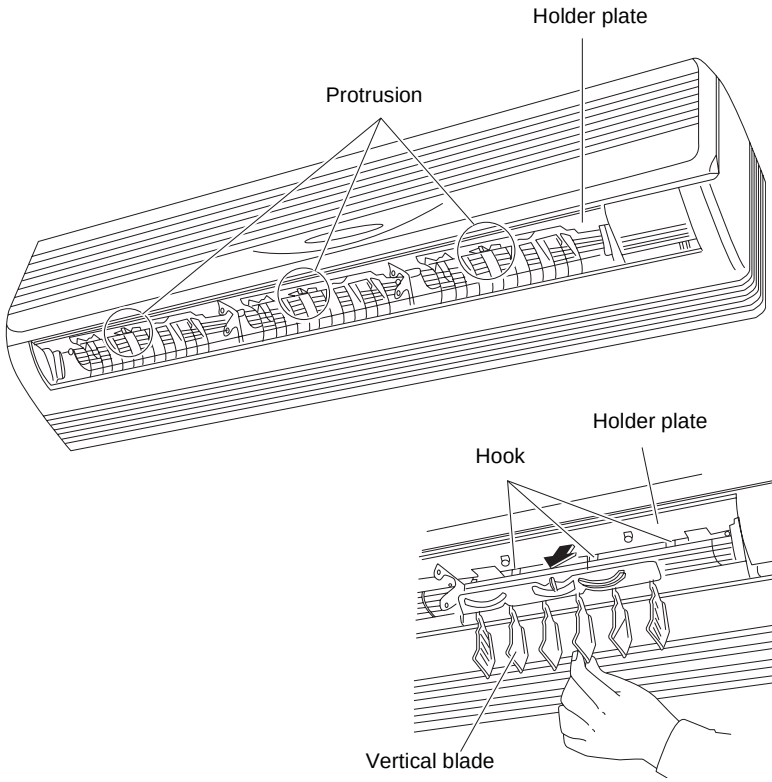
How to remove the Front Grille

Step	Action
1	Remove three pieces of front grille fixing screws. ➤ Removing the front panel in accordance with "Removal of Front Panel". 
2	Remove the front grille by pulling forward while pushing three hooks located at upper part of the grille one by one. ➤ If hard to remove, try to push the hooks by a screwdriver or the like to remove. 
3	The front grille can be removed by pulling forward and lift the bottom part.  ➤ Make sure that the three hooks are set on the original position when reinstalling the front grille.

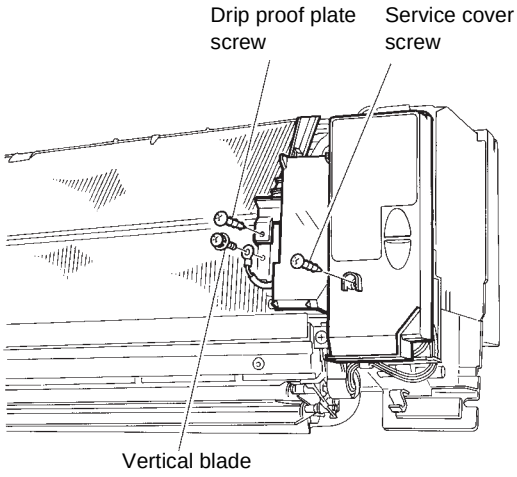
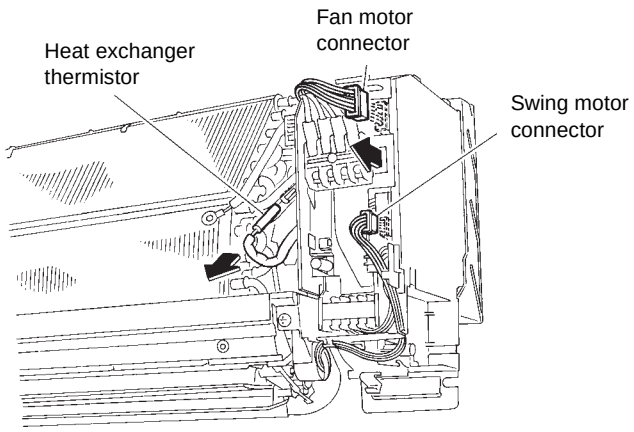
How to remove the Horizontal Blade and Vertical Blade

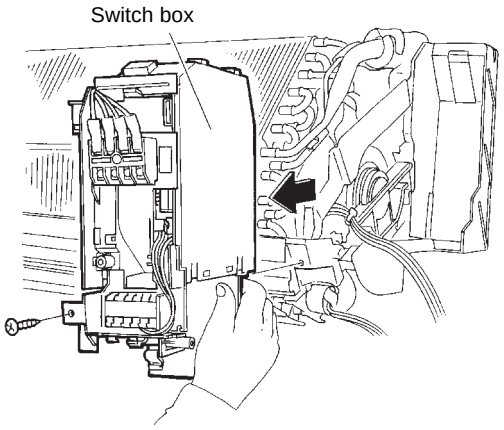
Step	Action
1	Removing the horizontal blade: 1. Open the horizontal blade 2. Bend the horizontal blade slightly to disengage the fixing part at right side 3. Pull the horizontal blade rightward and take it out .



Step	Action
1	Removing the vertical blade: 1. Disengage the protrusion on upper side of blade from holder plate. (Three locations). 2. Push the vertical blade backward and pull the lower side forward to disengage the blade from three hooks 

How to remove the Electrical Box

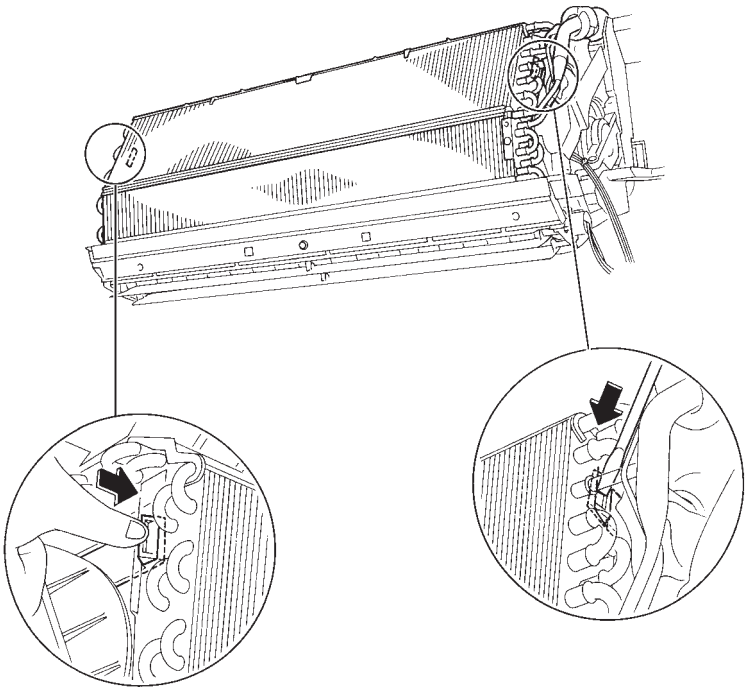
Step	Action
1	1. Remove the screw on the service cover 2. Remove the screw on the drip proof plate 3. Remove the screw for the grounding wire.  ➤ Removing the front grille in accordance with "Removal of Front Grille".
2	1. Remove the following connectors: - Fan motor connector - Air swing motor connector. 2. Pull the heat exchanger thermistor and dismantle it. 

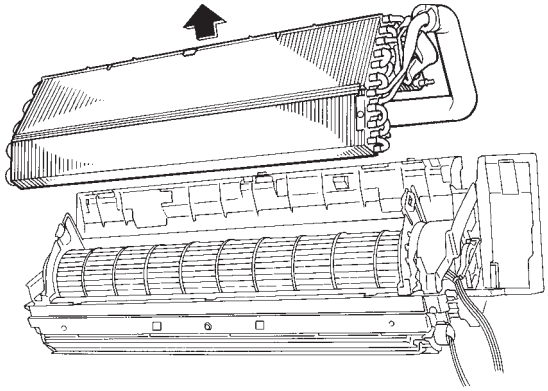
Step	Action
3	1. Remove the fixing screw for switch box 2. Pull forward the switch box holding lower part of the box. 

How to remove the Heat Exchanger

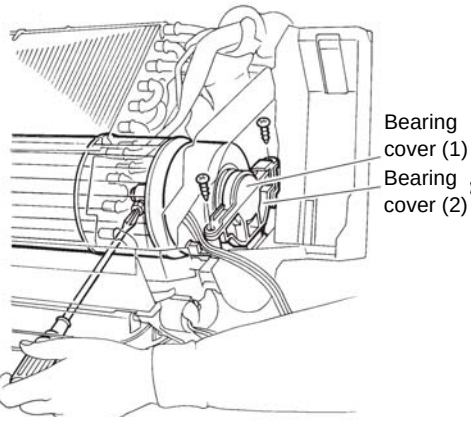
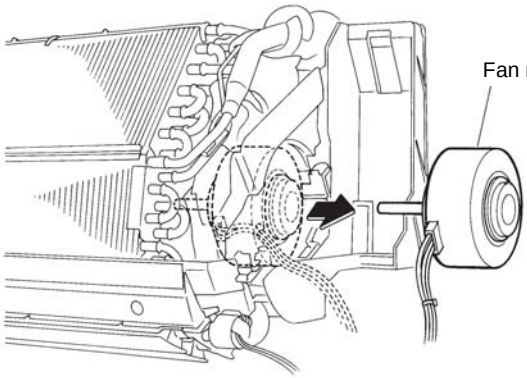
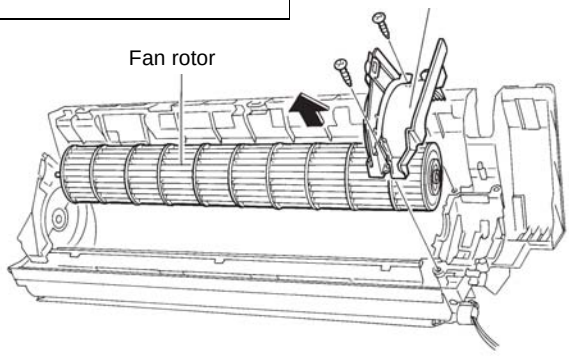
Step	Action
1	Press strongly the claws on both left and right sides of heat exchanger toward inside. Remove clip from back side..

➤ Removing the front grille in accordance with "Removal of Front Grille". ➤ Removing the switch box in accordance with "Removal of Switch Box". ➤ Pay attention not to soil the floor with residual drain. ➤ In case that the drain hose is buried inside wall, remove the heat exchanger after pulling out the drain hose.	**Caution** If gas leaks, repair the leakage section, collect refrigerant inside the unit completely, then, recharge refrigerant after performing vacuum dehydration. Don't mix air or the like otherthan the specified refrigerant into a refrigeration circle.(Mixing of air or other gas causes abnormal high pressure in the refrigerating cycle and results in pipe rupture or personal injuries.)

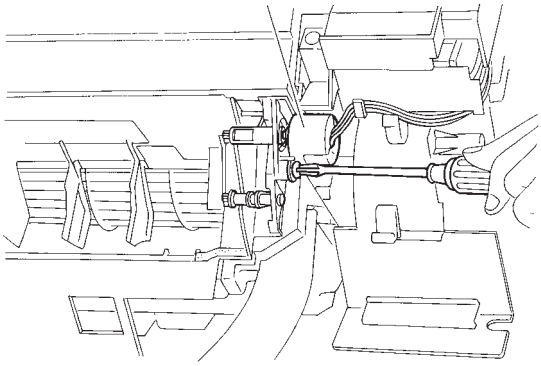
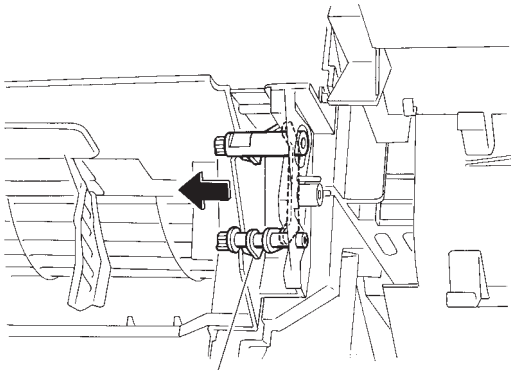


Step	Action
2	To remove the heat exchanger, pull it upward.  **Caution** When removing or reinstalling the heat exchanger, be sure to wear gloves or wrap the heat exchanger with cloth or the like. (Otherwise, the fins may injure your hand.)

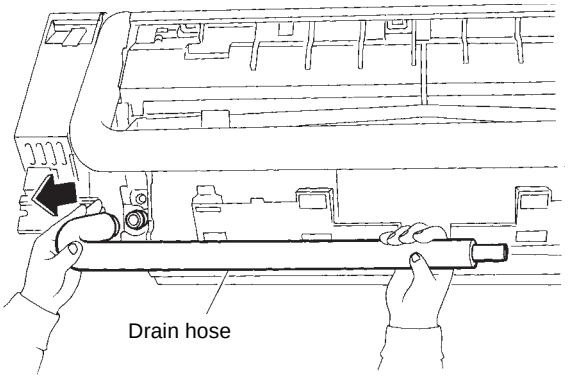
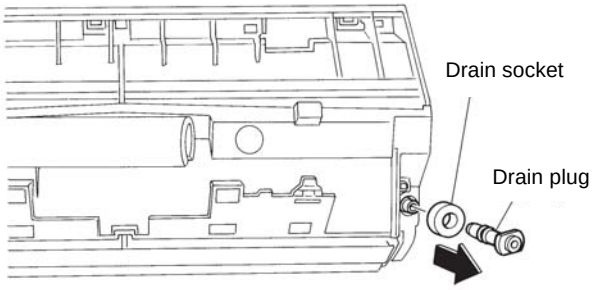
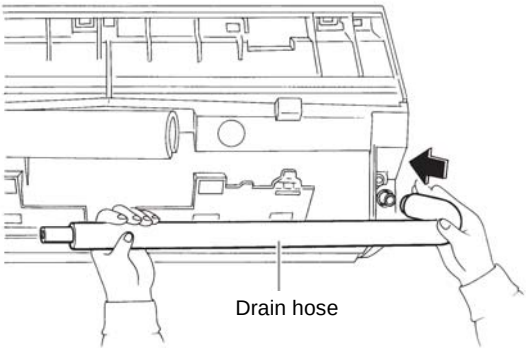
How to remove the Fan Motor and Fan Rotor

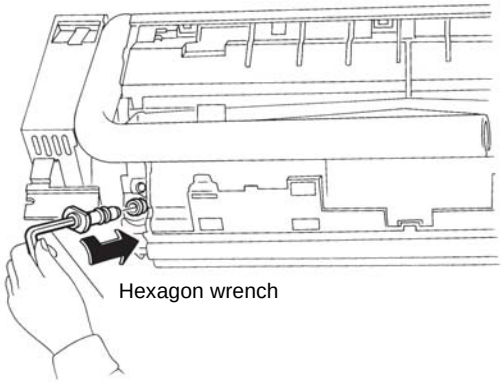
Step	Action
1	Removing the fan motor: 1. Insert a Phillips tip screwdriver into the air outlet and remove the screws fixing the fan motor and fan rotor (The screws can be removed without removing of horizontal blade.) 2. Remove the two screws on the bearing cover (1) and (2) and dismantle the covers 3. Take out the fan motor sideways ➤ Removing the front grille in accordance with "Removal of Front Grille". ➤ Removing the electrical box in accordance with "Removal of Electrical Box".  
1	Removing the fan rotor: 1. Remove the two screws to dismantle the rotor cover 2. Pull the fan rotor out. ➤ Removing the heat exchanger in accordance with "Removal of Heat Exchanger". 

How to remove the Air Swing Motor

Step	Action
1	1. Disconnect the air swing motor connector in the electrical box 2. Remove the screw which fixes the air swing motor.. ➤ Removing the front grille in accordance with "Removal of Front Grille". Swing motor 
2	Pull the air swing link assembly to the left strongly to dismantle.  Swing link

How to remove the Drain Hose Piping to the Left

Step	Action
1	1. Pull out the drain hose attached on the rear right of the unit 2. Pull out the drain plug and drain socket attached on the rear left of the unit.. ➤ Removing the front grille in accordance with "Removal of Front Grille"   ➤ The drain pan and bottom frame are designed as an integral type.
2	Piping of Drain Hose at Left Side.  ➤ Insert the drain hose to the hose plug securely as far as it will go.

Step	Action
3	Insert the drain plug and drain socket into the right side of the unit with hexagonal pin-wrench.  Hexagon wrench ➤ Insert the drain plug and socket securely as far as it will go.

Index

Numerics

4-way valve control 2–46

A

A1 3–26
A3 3–27
A6 3–29
AF 3–31
AJ 3–32
auto-restart function 2–21

B

BS 4–27

C

C4 3–34
C9 3–34
ceiling height 4–15
centralized group No.
    setting 4–18
changing
    field settings, wired remote controller 4–11
    field settings, wireless remote controller 4–12
    maintenance mode settings 4–24
checking
    clogged points 3–83
    discharge pressure 3–76
    expansion valve 3–77
    installation condition 3–75
    PCB's Hall IC 3–72
    power supply wave form 3–73
    refrigerant system 3–74
    test run checks 4–4
    thermistors 3–78
CJ 3–36
components
    exploded views, indoor units 5–17
    exploded views, outdoor units 5–3
    functional diagrams 1–63
    general outline, indoor units 1–13
    general outline, outdoor units 1–3
    PCB layout 1–111
    switch box layout 1–77
    wired remote controller 4–10
    wireless remote controller 4–12
    wiring diagrams, indoor units 1–99
    wiring diagrams, outdoor units 1–91
condensation avoidance control 2–38
control modes 2–6

D

defrost control 2–40
diameters, pipe connections 1–63
dimensions
indoor units 1–13
outdoor units 1–3
DIP switches 4–26
discharge pipe temperature control 2–16
display malfunction 3–13
draft avoidance control
1. 2–43
2. 2–45
drain pump control 2–18
dry keep mode 2–28
DS1 4–29
DS2 4–30

E

E0 3–38
E1 3–43
E3 3–44
E4 3–46
E6 3–48
E9 3–50
EEPROM 3–26
electrical specifications 1–47
emergency operation
general 2–7
error codes
indoor malfunctions overview 3–15
outdoor malfunctions overview 3–16
system malfunctions overview 3–17
evaluation
abnormal high pressure 3–81
abnormal low pressure 3–82
expansion valve control 2–24
exploded views
indoor units 5–17
outdoor units 5–3

F

F3 3–52
F6 3–58
factory settings
indoor units 4–14
fan and flap operations 2–20
fan control
normal, cooling mode 2–35
normal, heating mode 2–49
starting, cooling or dry keep mode 2–33
starting, heating mode 2–47
field settings
BS 4–27
DIP switches overview 4–26
jumpers overview 4–26
levels 4–23
overview indoor units 4–13
filter counter 4–16

forced operating mode
general . . . 2–7
forced thermostat OFF . . . 2–13
freeze-up function . . . 2–29
functional diagrams . . . 1–63

G

gas shortage function . . . 2–17

H

H3 . . . 3–54
H9 . . . 3–55
high pressure protection control . . . 2–37
high-pressure switch . . . 3–22
HPS and LPS function . . . 2–14

I

identification function . . . 2–10
installation space
indoor units . . . 1–13
outdoor units . . . 1–3

J

J1 . . . 4–28
J2 . . . 3–59
J3 . . . 4–28
J3 . . . 3–56
J6 . . . 3–57
jumpers . . . 4–28

L

LEDs
troubleshooting with indoor unit LEDs and remote controller . . . 3–15
troubleshooting with outdoor unit LEDs and remote controller, outdoor unit malfunctions . . . 3–16
troubleshooting with outdoor unit LEDs and remote controller, system malfunctions . . . 3–17
locating
exploded views, indoor units . . . 5–17
exploded views, outdoor units . . . 5–3
functional diagrams . . . 1–63
general outline, indoor units . . . 1–13
general outline, outdoor units . . . 1–3
PCB layout . . . 1–111
switch box layout . . . 1–77
thermistors . . . 2–4
wired remote controller components . . . 4–10
wireless remote controller components . . . 4–12
wiring diagrams, indoor units . . . 1–99
wiring diagrams, outdoor units . . . 1–91
low-pressure switch . . . 3–23

M

MAIN 4–17
malfunctions
indoor error codes overview 3–15
outdoor error codes overview 3–16
system error codes overview 3–17

N

noise 3–5

O

operating modes 2–6
operation data 4–34
operation range 4–33
options 1–47
outlook
indoor units 1–13
outdoor units 1–3
overcurrent protection function 2–23

P

PCBs 1–111
PJ 3–60

R

R1T 3–79
R2T 3–79
R3T 3–80
remote controller
display malfunction 3–13
setting address for receiver of wireless remote controller 4–5
setting address for wireless remote controller 4–6
thermostat, using conditions 2–22
remote controller 3–7
reverse phase protector 3–21

S

safety devices
high-pressure switch 3–22
low-pressure switch 3–23
overview indoor units 3–18
overview outdoor units 3–19
reverse phase protector 3–21
thermal protector fan motor 3–20
self-diagnosis
remote controller 3–7
wired remote controller 3–12
service space
indoor units 1–13
outdoor units 1–3

setting
address for receiver of wireless remote controller. 4–5
address for wireless remote controller 4–6
ceiling height 4–15
centralized group No. 4–18
field settings, wired remote controller 4–11
field settings, wireless remote controller 4–12
filter counter 4–16
MAIN/SUB when using two remote controllers 4–17
settings
BS 4–27
ceiling height 4–15
changing maintenance mode 4–24
DIP switches 4–26
factory overview 4–14
field overview 4–13
filter counter 4–16
jumpers overview 4–26
MAIN/SUB 4–17
maintenance mode 4–25
possible system settings 4–24
simulated operation function 2–15
specifications 1–47
SUB 4–17
switch boxes 1–77

T

technical specifications 1–47
test run
checks 4–4
thermal protector fan motor 3–20
thermistors
checking 3–78
functions 2–4
locating 2–4
R1T and R2T 3–79
R3T 3–80
thermostat control 2–11

U

U0 3–62
U1 3–63
U4 3–65
U5 3–67
U8 3–68
UA 3–69
UF 3–65

V

vibrations 3–5

W

wired remote controller 3–12
wiring diagrams
indoor units 1–99
outdoor units 1–91